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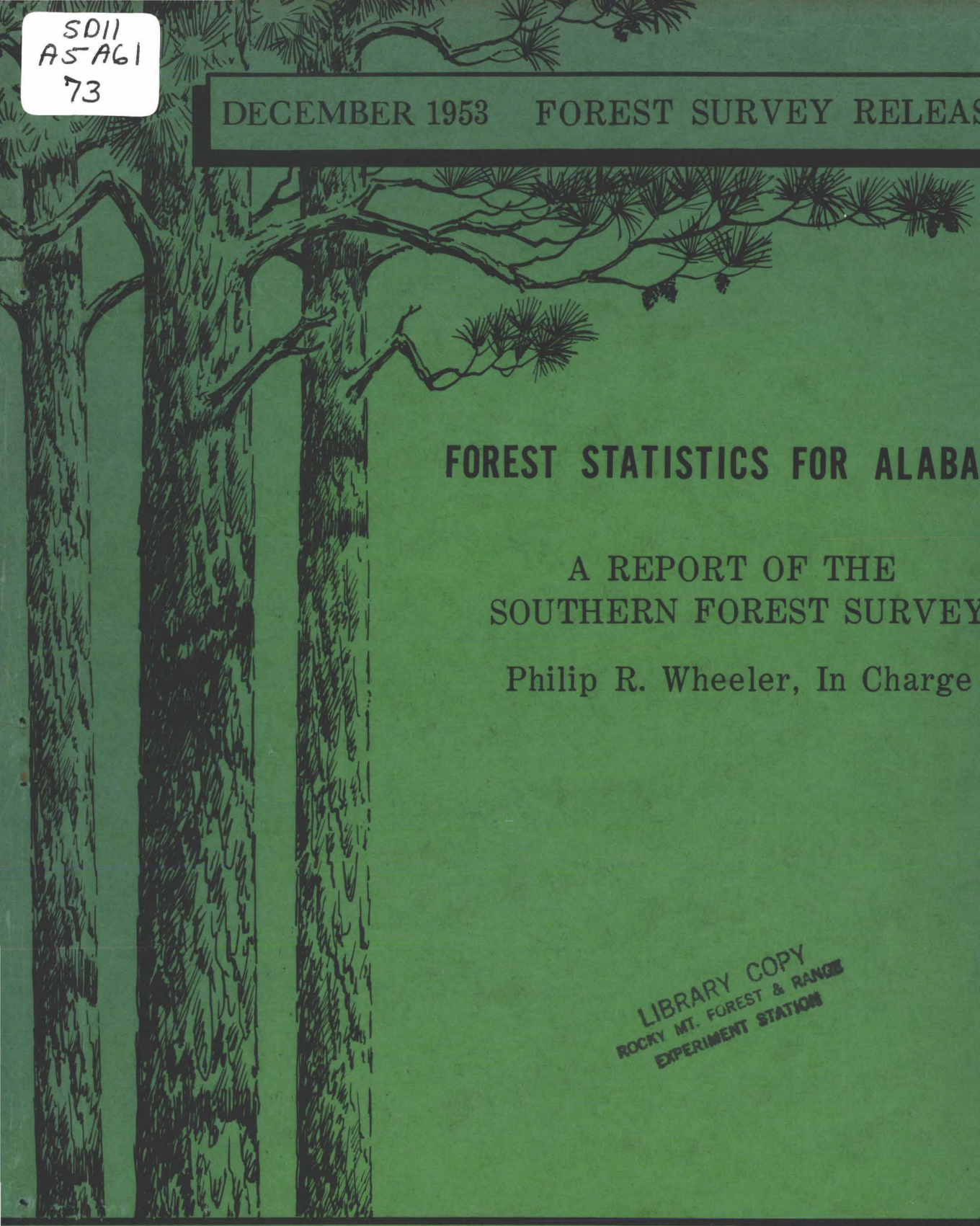
DECEMBER 1953 FOREST SURVEY RELEASE 73



FOREST STATISTICS FOR ALABAMA

A REPORT OF THE
SOUTHERN FOREST SURVEY

Philip R. Wheeler, In Charge

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Southern Forest Experiment Station, New Orleans, Louisiana
Philip A. Briegleb, Director

THE SOUTHERN FOREST SURVEY

The Southern Forest Survey, an activity of the Southern Forest Experiment Station, covers the seven States of the Station's territory--Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas.

This Survey is a part of the nation-wide Forest Survey authorized by the McSweeney-McNary Forest Research Act of 1928. Its five-fold purpose is (1) to take inventory of the supply of standing timber and other forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through use, and by fire, insects, disease, and other destructive agencies; (4) to estimate the present requirements and the probable future trend in the requirements for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions, in order that policies may be formulated for the effective use of lands suitable for forest production.

Large-scale cooperative assistance enabled the Southern Forest Survey to complete the reinventory of Alabama's forests almost two years ahead of schedule. Cooperation from the Alabama Forest Products Association and other groups who helped expedite the Survey is gratefully acknowledged.

The following organizations each furnished one or more foresters who served as chiefs of cruising parties: Division of Forestry, Alabama Department of Conservation; Alabama Power Co.; Coosa River Newsprint Co.; Courtaulds (Ala.) Inc.; Gulf States Paper Corp.; Hollingsworth and Whitney Co.; International Paper Co.; St. Regis Paper Co.; and the Division of Forestry Relations, Tennessee Valley Authority.

The following organizations and individuals provided assistant cruisers or monies to hire assistant cruisers: Allison Lumber Co., Inc.; American National Bank (Union Springs, Ala.); Anthony Lumber Co.; A. B. Carroll Lumber Co.; Castleberry Lumber Co.; E. B. Chancey Lumber Co.; Clancy Lumber Co., Inc.; Dixie Yellow Pine Co.; Dixon Lumber Co.; First National Bank (Clanton, Ala.); First National Bank (Union Springs, Ala.); Halcyon Hill; Russell Johnson (Wetumpka, Ala.); E. O. Majors (Tallassee, Ala.); T. L. McKee and Sons; Miller and Co., Inc.; T. R. Miller Mill Co.; National Gypsum Co.; Pate and Hodge Lumber Co.; Peoples Savings Bank (Clanton, Ala.); Scotch Lumber Co. Inc.; Cecil H. Smith and Son; M. W. Smith Lumber Co.; W. T. Smith Lumber Co.; Stremming Veneer Co., Inc.; Tallassee Lumber Co.; A. R. Taylor (Clanton, Ala.); and Vredenburgh Sawmill Co.

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Figure 1.--Forest Survey regions in Alabama.

FOREST STATISTICS FOR ALABAMA

This report summarizes data on forest acreage, timber volume, growth, and drain 1/ collected by the Southern Forest Survey in Alabama. It is primarily the product of the new Forest Survey of the State, made between 1951 and 1953, but it also draws on the first Forest Survey of 1935-36 to show the changes in forest conditions during the intervening 17 years. 2/

In the discussion of highlights that follows, the six Survey regions of the State (fig. 1) have been grouped into three. The West Central, North Central, and North regions are referred to as the North; the two southwestern regions are termed the Southwest.

To make valid comparisons between the two Surveys, both sets of data must conform to the same standards. In this report the findings of the first Survey have been adjusted to those of the Resurvey. The reasons for and nature of these adjustments are discussed on page 15.

Highlights of the Forest Situation

Forest acreage up 10 percent

Of the 32.7 million acres of land in Alabama, 64 percent is forested. Present commercial forest area totals 20.8 million acres--10 percent more than in 1935-36. Alabama's increase in forest acreage follows the general trend of farm land abandonment in the southern uplands.

1/ Technical terms are defined on pages 40-45.

2/ Survey dates by region were: North, 1936 and 1951; North Central, 1936 and 1952; West Central, 1935 and 1951; Southeast, 1935 and 1953; Southwest, 1935 and 1953.

Increases in forest acreage have taken place quite generally over the State, except in the 10 northernmost counties and the 3 counties in the extreme Southwest. The largest increases in forest area--over 40 percent in some instances--have occurred through the central and Piedmont counties.

North Alabama, the most heavily industrialized section of the State, has 62 percent of its land area in forest. The coal and iron ore mines that feed Birmingham's steel industry are important wood users. Two of Alabama's 7 wood-pulp mills are also in the region--at Coosa Pines and Tuscaloosa.

Southeast Alabama, though 56 percent forested, is characterized by a largely agricultural economy. Cotton, livestock, and peanuts are the major income sources for the farm population.

Southwest Alabama has the highest proportion of forest land--75 percent. Mobile, chief city in the region, is the center for the State's pulpwood industry.

More than 95 percent of Alabama's commercial forest land is privately held. Virtually all the remaining acreage is in State and Federal ownership.

Softwood acreage up 6 percent; hardwood up 19 percent

The longleaf-slash type, which distinguishes the lower Coastal Plain, dominates 3 million acres of forest land (fig. 2). Longleaf also occurs in the North Central region; but here much of its former acreage was taken over by loblolly or shortleaf pines as the old-growth longleaf was logged off. North of the longleaf region, the loblolly-shortleaf type covers about 8 million acres, and on an additional 3 million acres southern pines are heavily mixed with hardwoods--oaks, gums, hickories, and others.

The area classed as upland hardwood occupies 4 million acres; seven-tenths of this acreage is in North Alabama. Bottomland hardwoods, primarily in the Southwest and secondarily along rivers and streams throughout the State, aggregate 2.4 million acres.

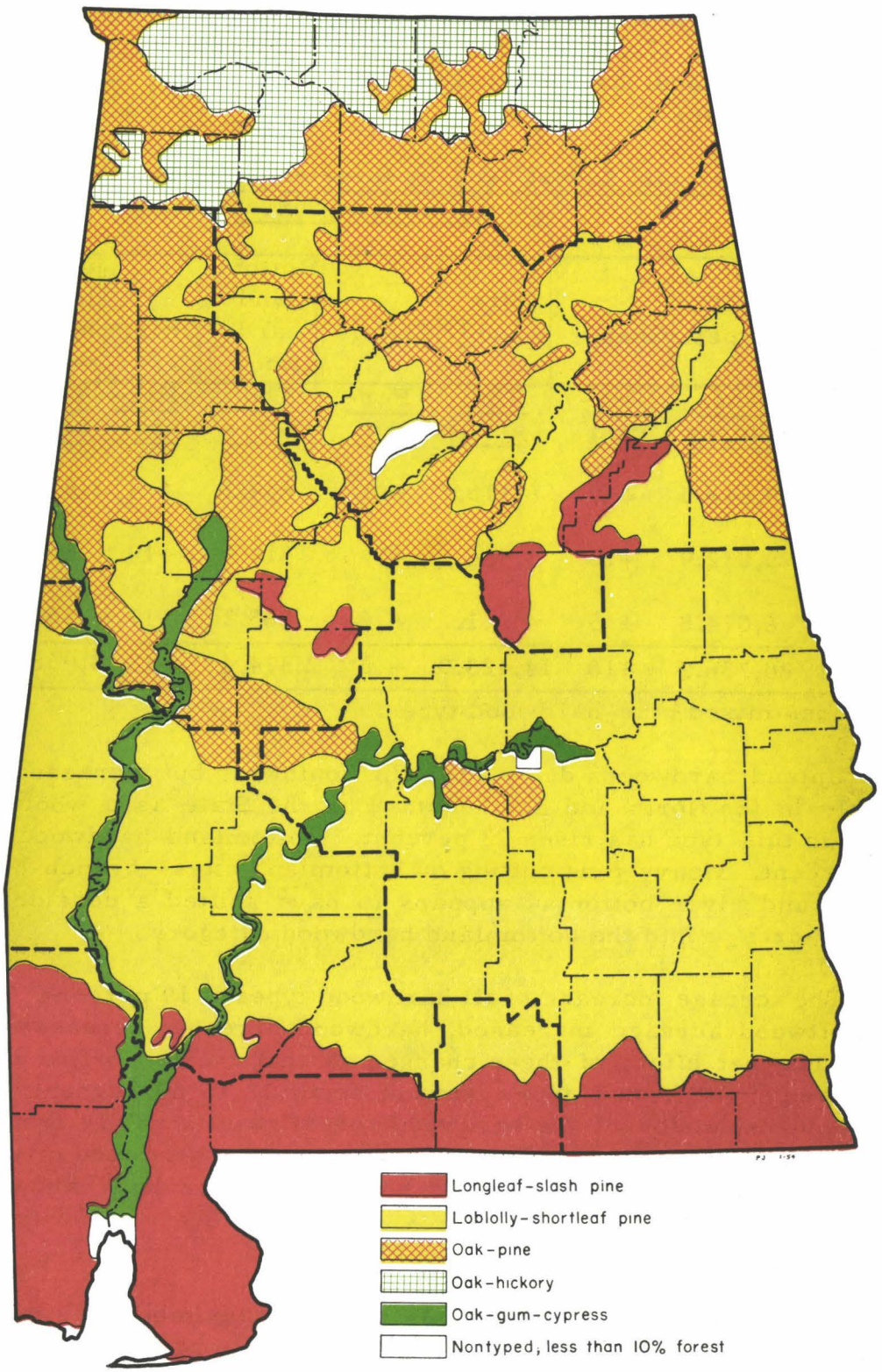

Figure 2.--Major forest types in Alabama.

The acreages in the major forest types have changed considerably during the past 17 years (table 1). Softwood types (largely pine and mixed pine-hardwood) have risen about 870 thousand acres. This is a 6-percent increase.

Table 1.--Commercial forest land by forest-type group (1951-53) and change between Surveys

Region	All types	Change	Softwood 1/	Change	Bottomland hardwood	Change	Upland hardwood	Change
	Thd. acres	Percent	Thd. acres	Percent	Thd. acres	Percent	Thd. acres	Percent
North	9,648.5	+ 9	6,115.2	+ 1	694.2	+ 4	2,839.1	+32
Southeast	5,032.9	+18	3,566.1	+17	814.9	+19	651.9	+23
Southwest	6,074.8	+ 5	4,741.7	+ 6	865.3	+17	467.8	-14
Total	20,756.2	+10	14,423.0	+ 6	2,374.4	+13	3,958.8	+23

1/ Includes mixed pine-hardwood types.

Upland hardwoods declined in the Southwest but increased considerably in the North and Southeast. For the State as a whole, the acreage in this type has risen 23 percent. Bottomland hardwoods are up 13 percent. Heavy pine cutting on bottomland sites--branch heads, swamps, and river bottoms--appears to have shifted a considerable softwood acreage into the bottomland hardwood category.

The acreage increase of all hardwood types is 19 percent. Thus, while softwood acreage increased, hardwood acreage increased even faster. The net effect of these changes is that the proportion of the forest area in softwood types shrank from 72 to 69 percent. The more rapid expansion of the hardwood forest results partly from the timber industry's preference for pine in cutting pine-hardwood mixtures and partly from the natural aggressiveness of the residual hardwoods.

Poletimber stands predominate

Alabama's timber stands--29 percent sawtimber, 53 percent poletimber, 17 percent seedling and sapling, and 1 percent nonstocked--have a disproportionately large area in small trees (fig. 3). The disparity is greatest in the North region and in the pine-hardwood type

Figure 3. --Forest area by stand size and forest-type group, 1951-53.

throughout the State. Forty-five percent of the bottomland hardwood type, however, is in sawtimber stands. The Southwest has 39 percent of its forest area in sawtimber; Southeast 30 percent; North 23 percent.

Three-fifths of forest well stocked

Sixty-three percent of Alabama's forest land can be considered well stocked (fig. 4). That is, it has at least 70 percent of the number of good trees (including well-established seedlings) required to occupy the site fully for best growth. This is a higher proportion of well-stocked forest than has been found in other Mid-South States that have been surveyed since 1946. Twenty-eight percent of the forest acreage is medium stocked--40 to 69 percent of full stocking. Eight percent is poorly (10 to 39 percent) stocked, and only 1 percent is nonstocked. The Southwest region has both the best and the poorest stocking--the best in the north section, the poorest in the south. Of the major forest types, bottomland hardwoods are the best stocked, the pine type poorest.

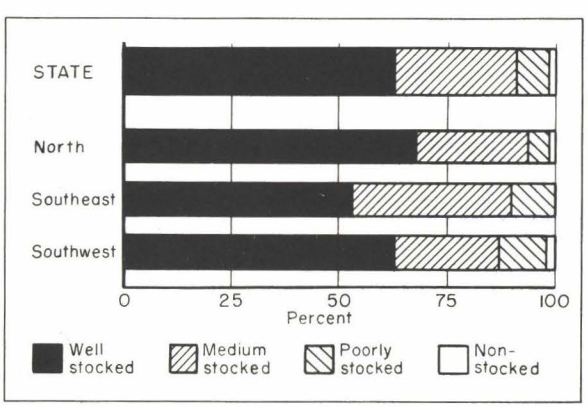

Figure 4. --Degree of stocking by region, 1951-53.

Full utilization of the timber-producing capacity of Alabama's forests is impeded by an accumulation of culls--trees too rotten or limby for any foreseeable use. About one-fifth of the basal area of all live trees 2

inches d. b. h. and larger is in cull trees. This wasted growing space is heaviest in the hardwood types. Although the north section of the Southwest has the smallest proportion of cull basal area, the cull element in none of the Survey regions deviates markedly from the State average.

Softwood growing stock down 5 percent; hardwood up 6 percent

Growing stock volume in Alabama's forests amounts to 11.7 billion cubic feet--about 560 cubic feet per acre. Softwoods make up 5.6 billion; hardwoods 6.1 billion. In North Alabama growing stock is 40 percent softwood; in Southeast 47 percent; in Southwest 57 percent (fig. 5). Seven-tenths of the softwood volume and six-tenths of the hardwood is in sawtimber trees (fig. 6).

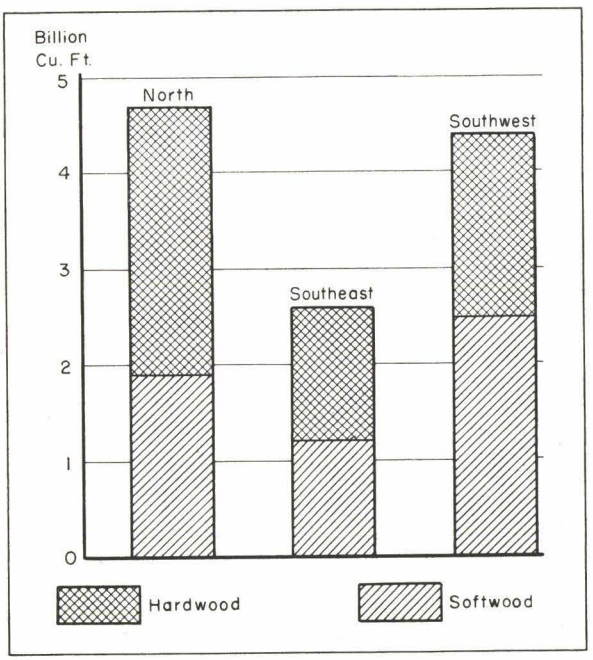

Figure 5. --Growing stock by region, 1951-53.

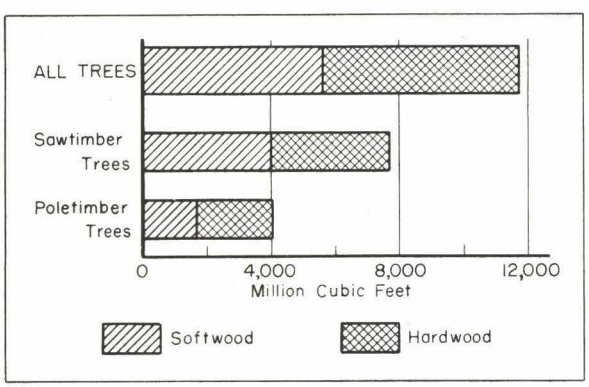

Figure 6. --Growing stock in poletimber and sawtimber trees, 1951-53.

Important changes in growing stock volume have occurred since the initial Survey in the middle 1930's. Softwood has declined 5 percent (table 2). Hardwood has increased 6 percent. The real significance of these figures, however, lies in the marked change in the numbers of trees in the different size classes between Surveys (fig. 7).

In North Alabama the change is typical of that found in most upland areas of other southern States that have been resurveyed since 1946. Softwoods--virtually all pines--have been cut heavily in all sizes 10 inches and larger in d. b. h. The rate of depletion is greatest in the bigger tree sizes. Though large hardwoods have

Table 2. --Growing stock volume (1951-53) and change between Surveys

Region	Softwood		Hardwood	
	Volume	Change	Volume	Change
	Million cu. ft.	Percent	Million cu. ft.	Percent
North	1,895.4	-26	2,849.9	- 2
Southeast	1,218.2	- 9	1,395.4	+ 7
Southwest	2,502.5	+25	1,851.0	+22
Total	5,616.1	- 5	6,096.3	+ 6

also been reduced in numbers, hardwoods have been cut less heavily than softwoods.

Growing stock changes in North Alabama pose a serious--but not insurmountable--problem to the region's wood-using industries. Although volume has declined, there has been a large increase in the number of small growing stock trees. These trees are the key to North Alabama's forest future. Much of the increase is in low-value species such as hickory; but a substantial part is in desirable species--southern pines, yellow-poplar, and white oaks. This young timber offers a happy opportunity to rebuild the depleted growing stock. Much depends on the extent to which forest managers take advantage of the new growth.

In Southeast Alabama the impact of timber cutting has also been heavy, but not to the same extent as in the North region. As figure 7 indicates,

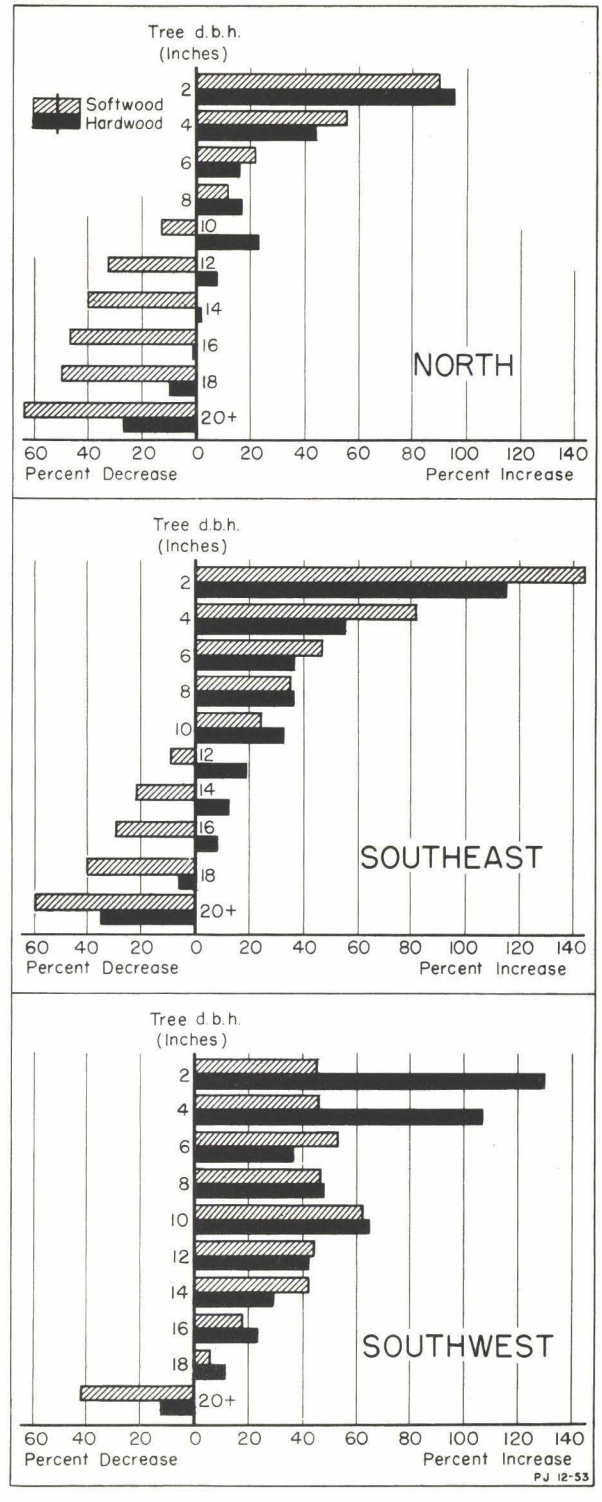

Figure 7. --Change in number of live trees between Surveys.

the reduction in the number of trees extends down through the 12-inch class in softwoods and the 18-inch class in hardwoods. Below 18 inches, hardwoods have increased considerably. In the bottomland type, which makes up a greater portion of the forest acreage in the Southeast than in other regions, this hardwood increase is favorable.

In the Southwest the stand tables indicate a greatly improved situation between Surveys. Softwoods in all tree sizes through 18 inches have increased in number--more than 40 percent in most tree sizes. The considerable pine increase, especially in sawtimber trees, resulted in a 25-percent increase in softwood growing stock. Only softwoods 20 inches and larger--chiefly old-growth and mature second-growth trees--have been reduced in numbers.

Part of the gain in numbers of small softwoods in the Southwest, of course, is associated with the 6-percent regional increase in softwood acreage between Surveys. But the prime factor in the softwood increase is that on much of the forest acreage, timber stands are being improved--by good cutting practice, by hardwood control in the uplands, and by intensified fire protection. Some owners have also adopted the practice of harvesting less than growth in order to build up their stock of growing timber.

Non-growing stock 1.9 billion cubic feet

Alabama's forests also contain much timber that, under current utilization practices, finds little commercial use. Of this, 70 percent is in cull trees, 26 percent is in limbs of sawtimber-size hardwoods, and 4 percent is in salvable dead trees. Hardwoods (mainly red and white oaks) total 1.8 billion cubic feet; softwoods (chiefly southern pines) 0.1 billion. Most of the volume is suitable for fuelwood and other farm-use products. Sound volume in cull trees alone is more than 10 times the 1951 output of wood for domestic farm use.

Cull-tree volume in species generally acceptable for pulping (pines and soft-textured hardwoods) totals some 480 million cubic feet --almost 5 times the 1951 pulpwood harvest.

Sawtimber volume down 12 percent

Alabama's sawtimber volume totals 38.2 billion board feet, of which two-fifths is in the Southwest region (fig. 8). Twenty-two billion board feet, 57 percent, is softwood.

Softwoods make up a greater portion of the sawtimber volume than of the growing stock. Loblolly pine, comprising 30 percent of the sawtimber volume, is the leading softwood species (fig. 9). Other southern pines--chiefly shortleaf--follow with 26 percent. All other softwoods make up 1 percent. Among hardwoods, red and white oaks lead with 16 percent of the total sawtimber volume. Sweet-, black-, and tupelo gum add up to 12 percent; hickories to 5 percent; and all other hardwoods to 10 percent.

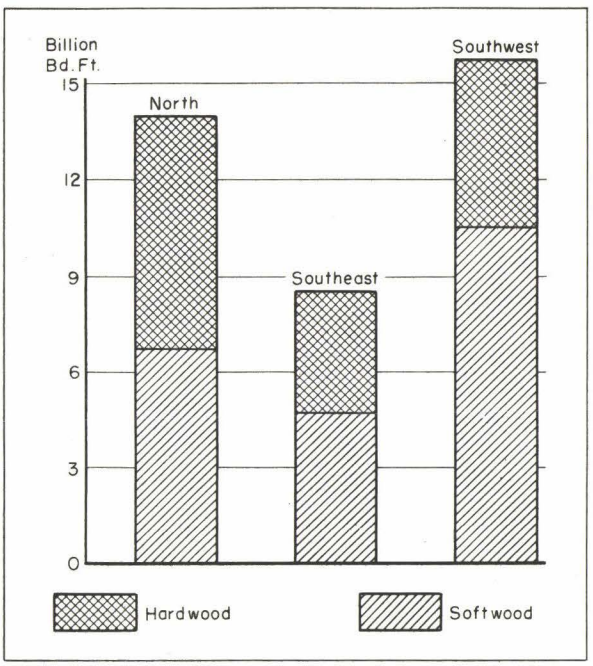

Figure 8.--Sawtimber volume by region, 1951-53.

Sawtimber volume dropped 5.4 billion board feet or 12 percent between Surveys. This decline was felt in all of the State except the Southwest. There, total sawtimber volume increased 13 percent: 16 percent in softwoods and 7 percent in hardwoods (table 3).

Further expression of the improved situation in the Southwest is found in average volumes per acre--sawtimber volume now averages 2,600 board feet per acre; at the time of the first Survey it averaged 2,400 board feet. In contrast, North Alabama, which averaged 2,200

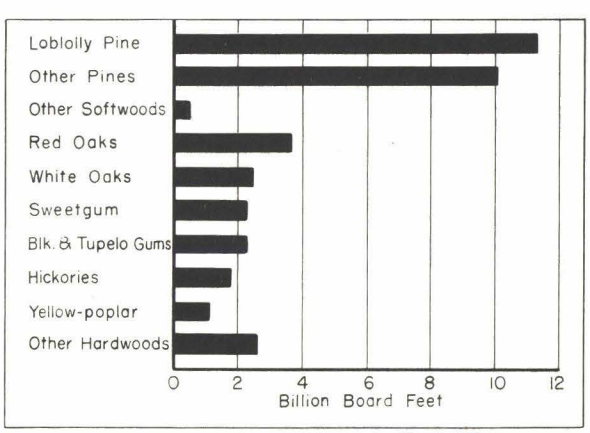

Figure 9.--Sawtimber volume by species, 1951-53.

Table 3.--Sawtimber volume (1951-53) and change between Surveys

Region	Softwood		Hardwood	
	Volume	Change	Volume	Change
	Million bd. ft.	Percent	Million bd. ft.	Percent
North	6,698.6	-40	7,263.5	-12
Southeast	4,720.8	-23	3,798.1	- 8
Southwest	10,509.5	+16	5,220.1	+ 7
Total	21,928.9	-17	16,281.7	- 5

board feet at the time of the initial Survey, now averages 1,400 board feet. Southeast Alabama dropped from 2,400 board feet to 1,700.

For the entire State, average volume plunged from 2,300 board feet per acre to 1,800. Pine types now average 1,800 board feet, while bottomland hardwoods average 3,000 and upland hardwoods 1,400. Sawtimber stands of all forest types average 4,600 board feet per acre.

Large-tree quality good

Alabama's softwood sawtimber volume is about equally divided between 10- and 12-inch trees and those 14 inches and larger; only 11 percent is in trees 20 inches d. b. h. and larger (table 4). Of the hardwood sawtimber volume, 54 percent is in 14- to 18-inch trees; and the volume in 12-inch trees is almost as much as that in trees over 18 inches.

Table 4. --Sawtimber volume by log grade and tree diameter, 1951-53

Species group and d. b. h. class (inches)	All grades	Grade 1	Grade 2	Other grades
	- - - - - -	Million board feet	- - - - - - -	
Softwood:				
10 to 12	10,593.7	33.7	218.5	10,341.5
14 to 18	8,979.3	28.0	1,856.5	7,094.8
20 and up	2,355.9	396.0	546.6	1,413.3
Total	21,928.9	457.7	2,621.6	18,849.6
Hardwood:				
12	3,642.9	...	27.3	3,615.6
14 to 18	8,775.9	249.8	2,055.2	6,470.9
20 and up	3,862.9	1,328.1	1,025.6	1,509.2
Total	16,281.7	1,577.9	3,108.1	11,595.7
All classes	38,210.6	2,035.6	5,729.7	30,445.3

Log quality is partly a function of tree size; the proportion of good-quality logs--grades 1 and 2--mounts rapidly with increasing tree diameter. In hardwoods 20 inches d. b. h. and larger, six-tenths of the volume is in good-quality logs; in 14- to 18-inch trees about one-quarter. But in the 12-inch class, virtually all of the volume is in low-grade saw-logs--small factory lumber logs, or logs that would yield chiefly ties and construction lumber.

As for softwoods, grade 1 and 2 logs comprise 40 percent of the sawtimber volume in trees 20 inches d. b. h. and larger; 21 percent of the volume in 14- to 18-inch trees; and 2 percent in 10- and 12-inch trees.

Of the total sawtimber volume, about three-tenths of the hardwood and one-seventh of the softwood is in grades 1 and 2. The low grade of much of Alabama's timber is due to the prevailing small sizes of sawtimber trees. Many of these trees will develop into better quality timber if permitted to grow to larger sizes.

Hardwood sawtimber stands are of higher average quality than softwood. More than half of the hardwood sawtimber area has at least four grade 2 or better logs per acre, while only one-third of the softwood sawtimber area does.

Net annual growth 769 million cubic feet; sawtimber growth 2. 8 billion board feet

Alabama's forests are now growing 769 million cubic feet annually in growing stock trees, including 2. 8 billion board feet of sawtimber. Statewide, more than three-fifths of the sawtimber growth is softwood; but in poletimber-size trees--the future sawtimber supply--two-thirds of the growth is hardwood. More than four-fifths of the softwood growth and three-fifths of the hardwood is sawtimber.

Annual net growth on growing stock averages 37 cubic feet per acre (about 0. 5 cord) for the State. It varies from 24 cubic feet (0. 3 cord) for the 10 northernmost counties to 52 cubic feet (0. 7 cord) in the north section of the Southwest. In softwood types growth is slightly higher than in hardwood types: 38 cubic feet as compared to 35.

Annual net growth of sawtimber totals 133 board feet per acre for all stand-sizes. In sawtimber stands, growth per acre averages more than 300 board feet in softwood types; more than 200 board feet in hardwood types. Region-wide, growth in sawtimber stands ranges

from 138 board feet per acre in the 10 northernmost counties to 335 board feet in the north section of the Southwest.

Total 1951 drain 595 million cubic feet; sawtimber drain 2.5 billion board feet

Commercial- and domestic-use cutting removed 595 million cubic feet from Alabama's growing stock in 1951. Sawlogs made up 63 percent of this volume; pulpwood 15 percent; fuelwood 10 percent; and all other products 12 percent (fig. 10). About one-seventh of the total commodity drain was for domestic farm use.

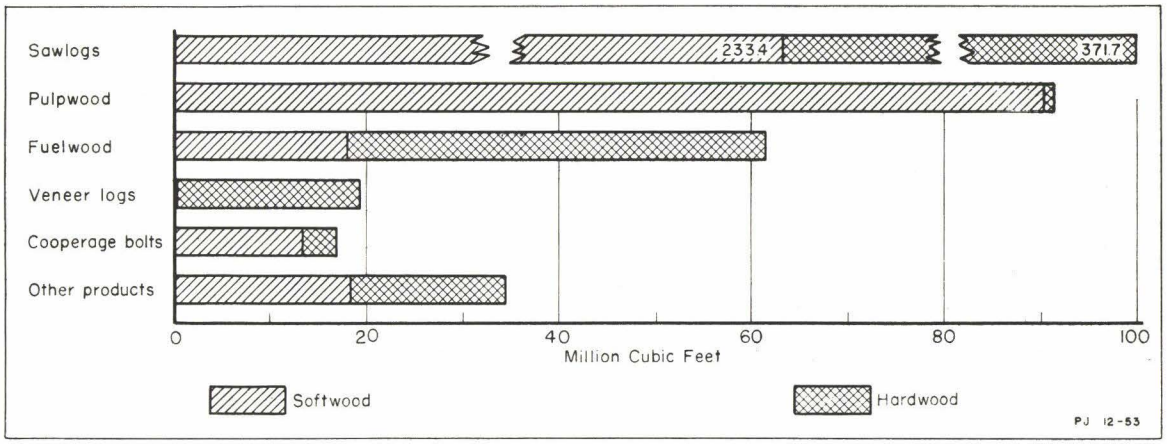

Figure 10.--Commodity drain on growing stock, 1951.

More than four-fifths of the 1951 sawtimber cut consisted of sawlogs and fuelwood. But considerable amounts of hardwood veneer logs, slack cooperage bolts, pine pulpwood, and pine poles were also harvested. Some 60 percent of the total board-footage was southern pine.

Alabama's timber resource supports some 3,000 sawmills, 7 wood-pulp mills, and more than 100 non-lumber establishments--veneer mills, cooperage plants, handle stock outfits, wood-preserving plants, and others. About 15 of the sawmills produce at least 10 million board feet annually.

Accuracy of the Survey

The 1951-53 data on forest acreage and timber volume were secured by a systematic sampling method involving a forest-nonforest classification on aerial photographs and on-the-ground measurement of quarter-acre sample plots. In the North, West Central, Southeast, and the two Southwest regions, sample plots were taken in pairs at and near the intersections of a grid of east-west and north-south lines spaced three miles apart. Furthermore, in the river- and branch-bottoms of six[3/] counties of the Southwest, the number of sample plots was increased to strengthen the volume estimates and additional photo interpretation was done to improve the area estimate. In the North Central region, only 80 percent of the locations (i. e., pairs of plots) as determined from a 3-mile-square grid were sampled.

Accuracy of the estimates may be affected by two types of error. The first type stems from the use of a sample to estimate the whole and from variability of the item being sampled. This type is termed sampling error; it is susceptible to a mathematical evaluation of the probability of error. The second type of error derives from human mistakes in measurement, judgment, arithmetic, or recording, and from limitations of method or equipment. Effects of this second type of error--often referred to as reporting and estimating error--cannot be appraised mathematically, but the Forest Survey constantly attempts to hold such error to a minimum by proper training and good supervision, and by emphasis on careful work.

Statistical analysis of the data, using random-sampling formulas, indicates a sampling error of 0.3 percent for the State estimate of total forest area, 1.5 percent for total cubic-foot volume, and 2.1 percent for total board-foot volume. However, because a systematic sample is generally more efficient than a random sample of the same size, these estimates of sampling error may be considered as setting an upper limit of error, rather than as expressing the actual probability of error. As the acreage and volumes for the State are broken down by Survey region, county, forest type, species, and other subdivisions of the data, the possibility of error increases and is greatest for the smallest items. The order of this increase is suggested in the following tabulation, which shows the sampling error to which the estimates may be liable on the probability of two chances out of three.

3/ Baldwin, Choctaw, Clarke, Mobile, Monroe, and Washington.

Forest area		Cubic volume		Board-foot volume	
Size of area sampled	Maximum sampling error	Volume sampled	Maximum sampling error	Volume sampled	Maximum sampling error
M acres	Percent	Million cu. ft.	Percent	Million bd. ft.	Percent
21,000	0.3	12,000	1.5	38,000	2.1
10,000	.4	6,000	2.1	20,000	2.9
5,000	.6	3,000	3.0	10,000	4.1
2,000	1.0	1,000	5.1	5,000	5.8
500	1.9	500	7.3	2,000	9.2
100	4.3	100	16.2	300	23.7

Growth estimates are based on radial-growth measurements and mortality data taken on the sample plots. No attempt was made to calculate sampling error in these estimates.

Drain estimates are conversions of production estimates. Production of hewn ties, commercial lumber, poles, piling, and round mine timbers was derived from Alabama Forest Products Severance Tax data. Commercial log and bolt production for other products was obtained by a 100-percent canvass of establishments or producers. Production of wood for fuel, fence posts, farm-use lumber, and miscellaneous domestic use on farms was estimated from an area sample. The data on production of each commodity were converted to drain upon growing stock by using drain-to-production ratios derived from measurements taken on sample cutting areas. The sampling errors to which the State cubic-foot drain estimates are liable, on a probability of two chances out of three, are found in the tabulation to the right.

Commodity	Sampling error of cubic-foot drain
	Percent error
Sawlogs	1.9
Veneer logs	6.4
Cooperage bolts	1.7
Pulpwood	2.4
Fuelwood	13.3
Poles and piling	22.2
Posts	19.5
Hewn ties	6.7
Round mine timbers	6.6
Misc. logs and bolts	13.6
All commodities	2.0

In computing the changes that took place between 1935-36 and 1951-53, the data from the first Forest Survey were adjusted to make them as closely comparable as possible to data from the second Survey. This was necessary because of certain basic differences between the two sets of data. For example, published estimates from the first Survey were based on a total land area of 32,692,660 acres in Alabama. Since then, more accurate measurement by the U. S. Bureau of the Census has established a revised figure of 32,689,920 acres. Thus, while actual land acreage has changed little, if at all, the estimate of land acreage has decreased, affecting forest-area and timber-volume estimates in like proportion. Again, the lower diameter limit for hardwood sawtimber trees was dropped from 13.0 inches d. b. h. on the first Survey to 11.0 inches on the second Survey, in line with changing utilization practices.

In addition to these major points, a number of procedural differences between the two Surveys had to be taken into account. In every case, the data from the first Survey were adjusted to conform to the standards of the second Survey before change was computed.

The sampling error in the data on change in forest acreage and timber volume cannot be estimated. In the 1935-36 Survey, sample plots were spaced one-eighth mile apart on lines 10 miles apart. An estimate of sampling error was not made. However, the error in the estimate of the State forest acreage was probably very small, as it is for the second Survey; and the indicated change in total forest acreage may be considered essentially correct. Indicated changes for Survey regions and other portions of the total acreage should be valued in proportion to the magnitude of the item and of the change. Changes in timber volume, because of the possible effect of nonsampling as well as sampling errors, are shown only for major groupings of the data.

Table 5. --Forest and nonforest land by Survey region, 1951-53

Land use	State of Alabama	North	North Central	West Central	Southeast	Southwest-North	Southwest-South
				Thousand acres			
Forest:							
Commercial	20,756.2	1,955.4	4,572.5	3,120.6	5,032.9	3,156.9	2,917.9
Noncommercial:							
Reserved	4.5	2.1	.9	.7	(2/)	...	.8
Unproductive	10.5	...	...	...	...	...	10.5
Total forest	20,771.2	1,957.5	4,573.4	3,121.3	5,032.9	3,156.9	2,929.2
Nonforest 1/	11,918.7	2,541.1	2,021.8	1,274.9	3,999.4	1,218.1	863.4
All land	32,689.9	4,498.6	6,595.2	4,396.2	9,032.3	4,375.0	3,792.6

1/ Includes some acres of water according to Survey standards of area classification but defined by the Bureau of Census as land.
2/ Negligible.

Table 6. --Commercial forest land by class of ownership, 1951-1953

Class of ownership	Commercial forest	
	Thousand acres	Percent
Private:		
Farm 1/	9,741.7	46.9
Other	10,038.6	48.4
Total private	19,780.3	95.3
Public: 2/		
National forest	616.3	3.0
T. V. A.	55.3	.3
Other federal	153.0	.7
State	148.6	.7
County and municipal	2.7	(3/)
Total public	975.9	4.7
All ownership	20,756.2	100.0

1/ Based on 1950 Census of Agriculture.
2/ Compiled 1952.
3/ Negligible.

Table 7.--Land area and commercial forest by county, 1951-53[1/]

County	All land	Commercial forest		County	All land	Commercial forest	
	Thousand acres	Thousand acres	Percent		Thousand acres	Thousand acres	Percent
Autauga	383.4	242.4	63.2	Jefferson	715.6	505.8	70.7
Baldwin	1,032.3	775.7	75.1	Lamar	387.2	278.8	72.0
Barbour	575.4	340.0	59.1	Lauderdale	440.3	147.8	33.6
Bibb	400.0	326.8	81.7	Lawrence	439.0	194.3	44.3
Blount	409.6	243.6	59.5	Lee	391.7	239.7	61.2
Bullock	393.6	208.2	52.9	Limestone	348.8	88.2	25.3
Butler	494.7	348.8	70.5	Lowndes	458.2	228.7	49.9
Calhoun	390.4	265.6	68.0	Macon	394.2	205.8	52.2
Chambers	382.7	246.5	64.4	Madison	514.0	158.1	30.8
Cherokee	384.0	245.4	63.9	Marengo	625.9	365.5	58.4
Chilton	447.4	318.6	71.2	Marion	475.5	321.0	67.5
Choctaw	587.5	484.4	82.5	Marshall	365.4	148.5	40.6
Clarke	794.2	682.2	85.9	Mobile	798.7	596.4	74.7
Clay	385.9	302.7	78.4	Monroe	662.4	506.8	76.5
Cleburne	367.4	292.1	79.5	Montgomery	505.6	181.6	35.9
Coffee	433.3	242.2	55.9	Morgan	367.4	132.7	36.1
Colbert	394.2	212.0	53.8	Perry	469.8	298.3	63.5
Conecuh	544.0	373.8	68.7	Pickens	567.7	404.2	71.2
Coosa	414.7	331.9	80.0	Pike	430.7	206.3	47.9
Covington	661.8	454.9	68.7	Randolph	371.8	245.0	65.9
Crenshaw	391.0	243.2	62.2	Russell	409.0	211.4	51.7
Cullman	475.5	256.3	53.9	St. Clair	410.2	309.3	75.4
Dale	358.4	193.5	54.0	Shelby	512.0	380.7	74.4
Dallas	624.7	314.2	50.3	Sumter	585.0	354.8	60.6
DeKalb	497.9	230.5	46.3	Talladega	480.0	303.8	63.3
Elmore	401.9	249.3	62.0	Tallapoosa	455.0	328.3	72.2
Escambia	615.7	496.3	80.6	Tuscaloosa	857.6	700.1	81.6
Etowah	355.2	218.4	61.5	Walker	517.8	358.2	69.2
Fayette	401.3	302.2	75.3	Washington	684.1	594.6	86.9
Franklin	412.2	233.3	56.6	Wilcox	576.0	389.4	67.6
Geneva	369.9	159.4	43.1	Winston	405.1	313.7	77.4
Greene	412.8	252.7	61.2				
				All counties	32,689.9	20,756.2	63.5
Hale	424.3	236.5	55.7				
Henry	361.6	201.0	55.6				
Houston	369.9	123.8	33.5				
Jackson	719.4	410.0	57.0				

1/ County data on sawtimber volume and growing stock, suitable for combining into county groups, are available as a supplement to this release.

Table 8. --Commercial forest land by stand size and forest type, by Survey region, 1951-1953

Forest type	All stand sizes	Large saw-timber	Small saw-timber	Pole-timber	Seedling and sapling	Nonstocked and other areas[1/]
	Thousand acres					
STATE OF ALABAMA						
Softwood types:						
Pine	11,002.3	723.7	2,649.6	5,216.7	2,247.7	164.6
Pine-hardwood	3,256.0	176.4	490.6	1,986.4	581.8	20.8
Other softwood	164.7	8.1	7.7	96.7	52.2	...
Total	14,423.0	908.2	3,147.9	7,299.8	2,881.7	185.4
Hardwood types:						
Bottomland hardwood	2,374.4	522.2	542.4	1,130.4	172.7	6.7
Upland hardwood	3,958.8	436.2	534.1	2,482.4	448.7	57.4
Total	6,333.2	958.4	1,076.5	3,612.8	621.4	64.1
All types	20,756.2	1,866.6	4,224.4	10,912.6	3,503.1	249.5
NORTH						
Softwood types:						
Pine	425.3	49.2	102.1	176.9	91.6	5.5
Pine-hardwood	257.4	30.5	43.8	137.7	43.1	2.3
Other softwood	123.6	8.1	5.5	77.9	32.1	...
Total	806.3	87.8	151.4	392.5	166.8	7.8
Hardwood types:						
Bottomland hardwood	145.5	26.8	17.2	75.6	23.6	2.3
Upland hardwood	1,003.6	130.7	198.0	606.6	68.3	...
Total	1,149.1	157.5	215.2	682.2	91.9	2.3
All types	1,955.4	245.3	366.6	1,074.7	258.7	10.1
NORTH CENTRAL						
Softwood types:						
Pine	2,305.8	128.0	420.8	1,206.2	523.6	27.2
Pine-hardwood	977.2	33.5	90.3	637.4	211.7	4.3
Other softwood	...	...	...	...	...	...
Total	3,283.0	161.5	511.1	1,843.6	735.3	31.5
Hardwood types:						
Bottomland hardwood	103.7	15.8	16.6	39.4	31.9	...
Upland hardwood	1,185.8	144.4	76.7	788.9	159.3	16.5
Total	1,289.5	160.2	93.3	828.3	191.2	16.5
All types	4,572.5	321.7	604.4	2,671.9	926.5	48.0
WEST CENTRAL						
Softwood types:						
Pine	1,383.4	66.1	221.6	868.8	218.4	8.5
Pine-hardwood	642.5	28.5	60.3	445.4	96.9	11.4
Other softwood	...	...	...	...	...	...
Total	2,025.9	94.6	281.9	1,314.2	315.3	19.9
Hardwood types:						
Bottomland hardwood	445.0	115.6	90.7	200.8	34.7	3.2
Upland hardwood	649.7	63.3	59.7	452.4	74.3	...
Total	1,094.7	178.9	150.4	653.2	109.0	3.2
All types	3,120.6	273.5	432.3	1,967.4	424.3	23.1
SOUTHEAST						
Softwood types:						
Pine	2,829.9	166.1	646.9	1,268.7	734.8	13.4
Pine-hardwood	714.7	42.9	120.2	425.7	125.9	...
Other softwood	21.5	...	...	15.3	6.2	...
Total	3,566.1	209.0	767.1	1,709.7	866.9	13.4
Hardwood types:						
Bottomland hardwood	814.9	102.8	222.5	437.3	52.3	...
Upland hardwood	651.9	49.7	133.8	367.5	95.1	5.8
Total	1,466.8	152.5	356.3	804.8	147.4	5.8
All types	5,032.9	361.5	1,123.4	2,514.5	1,014.3	19.2
SOUTHWEST - NORTH						
Softwood types:						
Pine	1,853.2	252.1	653.1	734.5	210.6	2.9
Pine-hardwood	437.0	32.1	115.4	233.0	56.5	...
Other softwood	17.4	...	...	3.5	13.9	...
Total	2,307.6	284.2	768.5	971.0	281.0	2.9
Hardwood types:						
Bottomland hardwood	520.3	125.7	128.3	247.2	17.9	1.2
Upland hardwood	329.0	44.9	52.0	209.7	22.4	...
Total	849.3	170.6	180.3	456.9	40.3	1.2
All types	3,156.9	454.8	948.8	1,427.9	321.3	4.1
SOUTHWEST - SOUTH						
Softwood types:						
Pine	2,204.7	62.2	605.1	961.6	468.7	107.1
Pine-hardwood	227.2	8.9	60.6	107.2	47.7	2.8
Other softwood	2.2	...	2.2	...	...	...
Total	2,434.1	71.1	667.9	1,068.8	516.4	109.9
Hardwood types:						
Bottomland hardwood	345.0	135.5	67.1	130.1	12.3	...
Upland hardwood	138.8	3.2	13.9	57.3	29.3	35.1
Total	483.8	138.7	81.0	187.4	41.6	35.1
All types	2,917.9	209.8	748.9	1,256.2	558.0	145.0

1/ Includes areas not classified elsewhere.

Table 9. --Commercial forest land by degree of tree stocking and forest type, by Survey region, 1951-1953

Forest type	All stocking	Well stocked	Medium stocked	Poorly stocked	Non-stocked
	Thousand acres				
STATE OF ALABAMA					
Softwood types:					
Pine	11,002.3	6,482.9	3,264.1	1,094.0	161.3
Pine-hardwood	3,256.0	2,028.8	969.4	237.0	20.8
Other softwood	164.7	68.9	77.5	18.3	...
Total	14,423.0	8,580.6	4,311.0	1,349.3	182.1
Hardwood types:					
Bottomland hardwood	2,374.4	1,718.2	534.4	116.3	5.5
Upland hardwood	3,958.8	2,721.3	961.1	219.0	57.4
Total	6,333.2	4,439.5	1,495.5	335.3	62.9
All types	20,756.2	13,020.1	5,806.5	1,684.6	245.0
NORTH					
Softwood types:					
Pine	425.3	256.5	145.1	18.2	5.5
Pine-hardwood	257.4	150.0	92.1	13.0	2.3
Other softwood	123.6	65.6	52.5	5.5	...
Total	806.3	472.1	289.7	36.7	7.8
Hardwood types:					
Bottomland hardwood	145.5	72.0	54.7	16.5	2.3
Upland hardwood	1,003.6	724.5	240.6	38.5	...
Total	1,149.1	796.5	295.3	55.0	2.3
All types	1,955.4	1,268.6	585.0	91.7	10.1
NORTH CENTRAL					
Softwood types:					
Pine	2,305.8	1,592.3	552.8	133.5	27.2
Pine-hardwood	977.2	661.3	284.5	27.1	4.3
Other softwood	...	...	...	...	...
Total	3,283.0	2,253.6	837.3	160.6	31.5
Hardwood types:					
Bottomland hardwood	103.7	63.5	32.8	7.4	...
Upland hardwood	1,185.8	942.5	200.8	26.0	16.5
Total	1,289.5	1,006.0	233.6	33.4	16.5
All types	4,572.5	3,259.6	1,070.9	194.0	48.0
WEST CENTRAL					
Softwood types:					
Pine	1,383.4	876.7	402.3	95.9	8.5
Pine-hardwood	642.5	428.3	160.7	42.1	11.4
Other softwood	...	...	...	...	...
Total	2,025.9	1,305.0	563.0	138.0	19.9
Hardwood types:					
Bottomland hardwood	445.0	339.4	84.0	18.4	3.2
Upland hardwood	649.7	456.2	162.6	30.9	...
Total	1,094.7	795.6	246.6	49.3	3.2
All types	3,120.6	2,100.6	809.6	187.3	23.1

All stocking	Well stocked	Medium stocked	Poorly stocked	Non-stocked
Thousand acres				
SOUTHEAST				
2,829.9	1,377.5	1,109.2	329.8	13.4
714.7	328.4	306.4	79.9	...
21.5	3.3	12.4	5.8	...
3,566.1	1,709.2	1,428.0	415.5	13.4
814.9	627.6	168.7	18.6	...
651.9	287.9	279.2	79.0	5.8
1,466.8	915.5	447.9	97.6	5.8
5,032.9	2,624.7	1,875.9	513.1	19.2
SOUTHWEST-NORTH				
1,853.2	1,509.5	279.0	61.8	2.9
437.0	343.2	70.3	23.5	...
17.4	...	10.4	7.0	...
2,307.6	1,852.7	359.7	92.3	2.9
520.3	378.5	124.7	17.1	...
329.0	262.6	53.5	12.9	...
849.3	641.1	178.2	30.0	...
3,156.9	2,493.8	537.9	122.3	2.9
SOUTHWEST-SOUTH				
2,204.7	870.4	775.7	454.8	103.8
227.2	117.6	55.4	51.4	2.8
2.2	...	2.2	...	...
2,434.1	988.0	833.3	506.2	106.6
345.0	237.2	69.5	38.3	...
138.8	47.6	24.4	31.7	35.1
483.8	284.8	93.9	70.0	35.1
2,917.9	1,272.8	927.2	576.2	141.7

Table 10. --Area of sawtimber stands by stand quality and forest type, by Survey region, 1951-1953

Forest type	All qualities	Fair or better	Poor	All qualities	Fair or better	Poor
	Thousand acres			Thousand acres		
	STATE OF ALABAMA			SOUTHEAST		
Softwood types:						
Pine	3,373.3	1,035.6	2,337.7	813.0	202.9	610.1
Pine-hardwood	667.0	281.2	385.8	163.1	57.7	105.4
Other softwood	15.8	13.6	2.2	...	...	...
Total	4,056.1	1,330.4	2,725.7	976.1	260.6	715.5
Hardwood types:						
Bottomland hardwood	1,064.6	588.7	475.9	325.3	73.3	252.0
Upland hardwood	970.3	503.1	467.2	183.5	11.8	171.7
Total	2,034.9	1,091.8	943.1	508.8	85.1	423.7
All types	6,091.0	2,422.2	3,668.8	1,484.9	345.7	1,139.2
	NORTH			SOUTHWEST-NORTH		
Softwood types:						
Pine	151.3	65.0	86.3	905.2	321.0	584.2
Pine-hardwood	74.3	44.5	29.8	147.5	55.4	92.1
Other softwood	13.6	13.6	...	...	...	...
Total	239.2	123.1	116.1	1,052.7	376.4	676.3
Hardwood types:						
Bottomland hardwood	44.0	29.7	14.3	254.0	160.0	94.0
Upland hardwood	328.7	219.1	109.6	96.9	39.4	57.5
Total	372.7	248.8	123.9	350.9	199.4	151.5
All types	611.9	371.9	240.0	1,403.6	575.8	827.8
	NORTH CENTRAL			SOUTHWEST-SOUTH		
Softwood types:						
Pine	548.8	229.7	319.1	667.3	112.9	554.4
Pine-hardwood	123.8	66.2	57.6	69.5	7.4	62.1
Other softwood	...	...	...	2.2	...	2.2
Total	672.6	295.9	376.7	739.0	120.3	618.7
Hardwood types:						
Bottomland hardwood	32.4	28.7	3.7	202.6	171.8	30.8
Upland hardwood	221.1	164.1	57.0	17.1	2.2	14.9
Total	253.5	192.8	60.7	219.7	174.0	45.7
All types	926.1	488.7	437.4	958.7	294.3	664.4
	WEST CENTRAL					
Softwood types:						
Pine	287.7	104.1	183.6			
Pine-hardwood	88.8	50.0	38.8			
Other softwood	...	...	...			
Total	376.5	154.1	222.4			
Hardwood types:						
Bottomland hardwood	206.3	125.2	81.1			
Upland hardwood	123.0	66.5	56.5			
Total	329.3	191.7	137.6			
All types	705.8	345.8	360.0			

Table 11. --Basal area per acre of growing stock and cull trees by forest-type group and survey region, 1951-53

Forest-type group	State	North	North Central	West Central	Southeast	Southwest-North	Southwest-South
				Square feet			
Softwoods:							
2- and 4-inch good trees[1/]	12.7	14.0	12.8	15.4	11.9	15.7	7.9
Growing stock	32.5	32.6	29.7	32.2	28.4	45.3	30.2
2- and 4-inch poor trees	2.8	3.8	2.7	2.2	2.4	2.7	4.0
Cull trees	5.3	6.6	6.0	4.6	4.7	5.8	4.9
All trees	53.3	57.0	51.2	54.4	47.4	69.5	47.0
Bottomland hardwood:							
2- and 4-inch good trees[1/]	12.1	13.7	14.9	9.4	13.3	9.6	14.6
Growing stock	54.7	39.2	35.5	59.0	48.7	55.6	74.7
2- and 4-inch poor trees	5.0	4.9	5.2	5.5	5.0	4.6	4.6
Cull trees	16.5	11.2	12.5	16.2	17.0	16.2	19.8
All trees	88.3	69.0	68.1	90.1	84.0	86.0	113.7
Upland hardwood:							
2- and 4-inch good trees[1/]	10.8	10.1	10.5	11.2	11.8	14.5	3.6
Growing stock	34.0	39.2	31.6	34.0	30.6	40.8	15.8
2- and 4-inch poor trees	3.8	4.6	3.3	2.7	3.5	4.1	8.9
Cull trees	10.2	10.7	9.8	8.1	11.5	10.9	12.0
All trees	58.8	64.6	55.2	56.0	57.4	70.3	40.3
All types:							
2- and 4-inch good trees[1/]	12.2	12.0	12.3	13.6	12.2	14.6	8.5
Growing stock	35.3	36.5	30.3	36.4	31.9	46.5	34.7
2- and 4-inch poor trees	3.3	4.3	2.9	2.8	2.9	3.2	4.3
Cull trees	7.5	9.0	7.1	7.0	7.6	8.0	7.0
All trees	58.3	61.8	52.6	59.8	54.6	72.3	54.5

1/ Includes only sound, well-formed trees.

Table 12.--Total volume by class of timber and species, by Survey region, 1951-53

Species	All timber[1/]	Growing stock				Hardwood limbs	Cull trees
		Total growing stock	Sawtimber trees		Poletimber trees		
			Sawlog portions	Upper stems			
	Thousand cords						
STATE OF ALABAMA							
Softwood:							
Loblolly pine	35,104	34,745	24,757	2,075	7,913	...	359
Shortleaf pine	17,573	17,418	9,153	859	7,406	...	155
Longleaf pine	12,017	11,952	7,492	754	3,706	...	65
Slash pine	5,904	5,877	4,123	371	1,383	...	27
Other pines	3,402	3,318	2,227	185	906	...	84
Other softwoods	1,656	1,570	1,130	108	332	...	86
Total	75,656	74,880	48,882	4,352	21,646	...	776
Hardwood:							
Red oaks	25,694	19,525	8,605	3,853	7,067	2,509	3,660
White oaks	18,063	14,512	5,981	2,708	5,823	1,266	2,285
Hickories	13,235	11,120	4,408	1,856	4,856	777	1,338
Yellow-poplar	5,133	4,638	2,483	844	1,311	179	316
Sweetgum	14,918	13,152	5,546	2,120	5,486	420	1,346
Black and tupelo gums	14,958	12,472	5,592	2,249	4,631	554	1,932
Other hardwoods	25,213	15,570	6,148	2,757	6,665	1,543	8,100
Total	117,214	90,989	38,763	16,387	35,839	7,248	18,977
All species	192,870	165,869	87,645	20,739	57,485	7,248	19,753
NORTH							
Softwood:							
Loblolly pine	1,157	1,141	797	73	271	...	16
Shortleaf pine	1,327	1,308	687	63	558	...	19
Other pines	503	480	321	28	131	...	23
Other softwoods	273	249	89	12	148	...	24
Total	3,260	3,178	1,894	176	1,108	...	82
Hardwood:							
Red oaks	3,852	2,969	1,361	612	996	516	367
White oaks	3,554	2,969	1,234	581	1,154	76	509
Hickories	3,125	2,685	1,012	421	1,252	164	276
Yellow-poplar	530	466	274	96	96	27	37
Sweetgum	825	726	342	140	244	28	71
Black and tupelo gums	707	531	263	122	146	28	148
Other hardwoods	2,578	1,649	669	337	643	198	731
Total	15,171	11,995	5,155	2,309	4,531	1,037	2,139
All species	18,431	15,173	7,049	2,485	5,639	1,037	2,221
NORTH CENTRAL							
Softwood:							
Loblolly pine	6,175	6,115	4,286	297	1,532	...	60
Shortleaf pine	4,184	4,149	1,849	146	2,154	...	35
Longleaf pine	1,928	1,911	1,232	97	582	...	17
Other pines	1,359	1,324	836	63	425	...	35
Other softwoods	34	22	16	1	5	...	12
Total	13,680	13,521	8,219	604	4,698	...	159
Hardwood:							
Red oaks	5,070	4,016	1,580	724	1,712	345	709
White oaks	5,079	3,900	1,452	669	1,779	357	822
Hickories	3,870	3,148	1,069	476	1,603	188	534
Yellow-poplar	857	781	427	146	208	30	46
Sweetgum	1,360	1,164	469	194	501	38	158
Black and tupelo gums	827	630	228	111	291	22	175
Other hardwoods	2,607	1,198	400	198	600	128	1,281
Total	19,670	14,837	5,625	2,518	6,694	1,108	3,725
All species	33,350	28,358	13,844	3,122	11,392	1,108	3,884
WEST CENTRAL							
Softwood:							
Loblolly pine	4,647	4,612	2,972	272	1,368	...	35
Shortleaf pine	2,851	2,830	1,219	120	1,491	...	21
Longleaf pine	696	689	503	45	141	...	7
Other pines	245	240	78	11	151	...	5
Other softwoods	213	201	168	15	18	...	12
Total	8,652	8,572	4,940	463	3,169	...	80
Hardwood:							
Red oaks	4,429	3,503	1,536	696	1,271	389	537
White oaks	2,981	2,492	925	455	1,112	205	284
Hickories	2,464	2,157	882	387	888	149	158
Yellow-poplar	533	494	187	73	234	12	27
Sweetgum	3,275	2,978	1,346	485	1,147	81	216
Black and tupelo gums	2,607	2,227	1,045	418	764	83	297
Other hardwoods	3,190	1,852	713	349	790	175	1,163
Total	19,479	15,703	6,634	2,863	6,206	1,094	2,682
All species	28,131	24,275	11,574	3,326	9,375	1,094	2,762

Table 12. --Total volume by class of timber and species, by Survey region, 1951-53 (continued)

Species	All timber 1/	Growing stock				Hardwood limbs	Cull trees
		Total growing stock	Sawtimber trees		Poletimber trees		
			Sawlog portions	Upper stems			
	Thousand cords						
SOUTHEAST							
Softwood:							
Loblolly pine	10,153	9,986	6,920	630	2,436	...	167
Shortleaf pine	3,887	3,846	2,058	220	1,568	...	41
Longleaf pine	1,428	1,417	828	84	505	...	11
Slash pine	351	351	237	22	92	...	...
Other pines	388	383	280	24	79	...	5
Other softwoods	268	260	211	21	28	...	8
Total	16,475	16,243	10,534	1,001	4,708	...	232
Hardwood:							
Red oaks	5,410	3,858	1,719	763	1,376	515	1,037
White oaks	2,348	1,770	802	343	625	209	369
Hickories	2,016	1,660	763	284	613	143	213
Yellow-poplar	1,779	1,607	853	282	472	55	117
Sweetgum	4,563	3,963	1,620	603	1,740	118	482
Black and tupelo gums	4,205	3,600	1,545	610	1,445	124	481
Other hardwoods	6,927	4,369	1,745	718	1,906	355	2,203
Total	27,248	20,827	9,047	3,603	8,177	1,519	4,902
All species	43,723	37,070	19,581	4,604	12,885	1,519	5,134
SOUTHWEST-NORTH							
Softwood:							
Loblolly pine	11,547	11,496	8,738	704	2,054	...	51
Shortleaf pine	5,005	4,969	3,159	290	1,520	...	36
Longleaf pine	1,315	1,309	970	87	252	...	6
Slash pine	253	253	148	13	92	...	...
Other pines	780	775	619	52	104	...	5
Other softwoods	272	267	215	19	33	...	5
Total	19,172	19,069	13,849	1,165	4,055	...	103
Hardwood:							
Red oaks	5,026	3,836	1,790	780	1,266	511	679
White oaks	3,167	2,612	1,143	497	972	300	255
Hickories	1,561	1,352	619	257	476	112	97
Yellow-poplar	873	797	466	154	177	33	43
Sweetgum	3,937	3,482	1,408	564	1,510	115	340
Black and tupelo gums	1,919	1,648	722	290	636	67	204
Other hardwoods	5,794	3,886	1,600	713	1,573	440	1,468
Total	22,277	17,613	7,748	3,255	6,610	1,578	3,086
All species	41,449	36,682	21,597	4,420	10,665	1,578	3,189
SOUTHWEST-SOUTH							
Softwood:							
Loblolly pine	1,425	1,395	1,044	99	252	...	30
Shortleaf pine	319	316	181	20	115	...	3
Longleaf pine	6,650	6,626	3,959	441	2,226	...	24
Slash pine	5,300	5,273	3,738	336	1,199	...	27
Other pines	127	116	93	7	16	...	11
Other softwoods	596	571	431	40	100	...	25
Total	14,417	14,297	9,446	943	3,908	...	120
Hardwood:							
Red oaks	1,907	1,343	619	278	446	233	331
White oaks	934	769	425	163	181	119	46
Hickories	199	118	63	31	24	21	60
Yellow-poplar	561	493	276	93	124	22	46
Sweetgum	958	839	361	134	344	40	79
Black and tupelo gums	4,693	3,836	1,789	698	1,349	230	627
Other hardwoods	4,117	2,616	1,021	442	1,153	247	1,254
Total	13,369	10,014	4,554	1,839	3,621	912	2,443
All species	27,786	24,311	14,000	2,782	7,529	912	2,563

1/ Sound volume in dead trees considered salvable is not included. This volume is as follows:

Region	Softwood	Hardwood
	Thousand cords	
North	55	104
North Central	137	144
West Central	51	122

Region	Softwood	Hardwood
	Thousand cords	
Southeast	80	43
Southwest-North	69	81
Southwest-South	43	49
Total	435	543

Table 13. --Total volume by class of timber and species, by Survey region, 1951-53

Species	All timber 1/	Growing stock			Poletimber trees	Hardwood limbs	Cull trees
		Total growing stock	Sawtimber trees				
			Sawlog portions	Upper stems			
	Million cubic feet						
STATE OF ALABAMA							
Softwood:							
Loblolly pine	2,632.8	2,605.9	1,856.8	155.7	593.4	...	26.9
Shortleaf pine	1,317.9	1,306.3	686.4	64.4	555.5	...	11.6
Longleaf pine	901.3	896.5	561.9	56.6	278.0	...	4.8
Slash pine	442.8	440.8	309.3	27.8	103.7	...	2.0
Other pines	255.1	248.8	167.1	13.8	67.9	...	6.3
Other softwoods	124.3	117.8	84.7	8.1	25.0	...	6.5
Total	5,674.2	5,616.1	3,666.2	326.4	1,623.5	...	58.1
Hardwood:							
Red oaks	1,721.6	1,308.2	576.6	258.1	473.5	168.1	245.3
White oaks	1,210.2	972.3	400.8	181.4	390.1	84.8	153.1
Hickories	886.8	745.0	295.3	124.3	325.4	52.1	89.7
Yellow-poplar	343.9	310.7	166.4	56.5	87.8	12.0	21.2
Sweetgum	999.5	881.2	371.5	142.1	367.6	28.1	90.2
Black and tupelo gums	1,002.2	835.6	374.6	150.7	310.3	37.2	129.4
Other hardwoods	1,689.2	1,043.3	411.9	184.8	446.6	103.3	542.6
Total	7,853.4	6,096.3	2,597.1	1,097.9	2,401.3	485.6	1,271.5
All species	13,527.6	11,712.4	6,263.3	1,424.3	4,024.8	485.6	1,329.6
NORTH							
Softwood:							
Loblolly pine	86.8	85.6	59.8	5.5	20.3	...	1.2
Shortleaf pine	99.5	98.1	51.5	4.7	41.9	...	1.4
Other pines	37.7	36.0	24.1	2.1	9.8	...	1.7
Other softwoods	20.5	18.7	6.7	.9	11.1	...	1.8
Total	244.5	238.4	142.1	13.2	83.1	...	6.1
Hardwood:							
Red oaks	258.1	198.9	91.2	41.0	66.7	34.6	24.6
White oaks	238.1	198.9	82.7	38.9	77.3	5.1	34.1
Hickories	209.4	179.9	67.8	28.2	83.9	11.0	18.5
Yellow-poplar	35.5	31.2	18.4	6.4	6.4	1.8	2.5
Sweetgum	55.3	48.7	22.9	9.4	16.4	1.9	4.7
Black and tupelo gums	47.4	35.6	17.6	8.2	9.8	1.9	9.9
Other hardwoods	172.7	110.5	44.8	22.6	43.1	13.2	49.0
Total	1,016.5	803.7	345.4	154.7	303.6	69.5	143.3
All species	1,261.0	1,042.1	487.5	167.9	386.7	69.5	149.4
NORTH CENTRAL							
Softwood:							
Loblolly pine	463.1	458.6	321.4	22.3	114.9	...	4.5
Shortleaf pine	313.8	311.2	138.7	10.9	161.6	...	2.6
Longleaf pine	144.6	143.3	92.4	7.3	43.6	...	1.3
Other pines	101.9	99.3	62.7	4.7	31.9	...	2.6
Other softwoods	2.6	1.7	1.2	.1	.4	...	.9
Total	1,026.0	1,014.1	616.4	45.3	352.4	...	11.9
Hardwood:							
Red oaks	339.7	269.1	105.9	48.5	114.7	23.1	47.5
White oaks	340.3	261.3	97.3	44.8	119.2	23.9	55.1
Hickories	259.3	210.9	71.6	31.9	107.4	12.6	35.8
Yellow-poplar	57.4	52.3	28.6	9.8	13.9	2.0	3.1
Sweetgum	91.1	78.0	31.4	13.0	33.6	2.5	10.6
Black and tupelo gums	55.4	42.2	15.3	7.4	19.5	1.5	11.7
Other hardwoods	174.7	80.3	26.8	13.3	40.2	8.6	85.8
Total	1,317.9	994.1	376.9	168.7	448.5	74.2	249.6
All species	2,343.9	2,008.2	993.3	214.0	800.9	74.2	261.5
WEST CENTRAL							
Softwood:							
Loblolly pine	348.5	345.9	222.9	20.4	102.6	...	2.6
Shortleaf pine	213.8	212.2	91.4	9.0	111.8	...	1.6
Longleaf pine	52.2	51.7	37.7	3.4	10.6	...	.5
Other pines	18.4	18.0	5.9	.8	11.3	...	.4
Other softwoods	16.0	15.1	12.6	1.1	1.4	...	.9
Total	648.9	642.9	370.5	34.7	237.7	...	6.0
Hardwood:							
Red oaks	296.8	234.7	102.9	46.6	85.2	26.1	36.0
White oaks	199.7	167.0	62.0	30.5	74.5	13.7	19.0
Hickories	165.1	144.5	59.1	25.9	59.5	10.0	10.6
Yellow-poplar	35.7	33.1	12.5	4.9	15.7	.8	1.8
Sweetgum	219.4	199.5	90.2	32.5	76.8	5.4	14.5
Black and tupelo gums	174.7	149.2	70.0	28.0	51.2	5.6	19.9
Other hardwoods	213.7	124.1	47.8	23.4	52.9	11.7	77.9
Total	1,305.1	1,052.1	444.5	191.8	415.8	73.3	179.7
All species	1,954.0	1,695.0	815.0	226.5	653.5	73.3	185.7

Table 13. --Total volume by class of timber and species, by Survey region, 1951-53 (continued)

Species	All timber 1/	Growing stock			Poletimber trees	Hardwood limbs	Cull trees
		Total growing stock	Sawtimber trees				
			Sawlog portions	Upper stems			
	Million cubic feet						
SOUTHEAST							
Softwood:							
Loblolly pine	761.5	749.0	519.0	47.3	182.7	...	12.5
Shortleaf pine	291.5	288.4	154.3	16.5	117.6	...	3.1
Longleaf pine	107.1	106.3	62.1	6.3	37.9	...	.8
Slash pine	26.3	26.3	17.8	1.6	6.9	...	...
Other pines	29.1	28.7	21.0	1.8	5.9	...	.4
Other softwoods	20.1	19.5	15.8	1.6	2.1	...	.6
Total	1,235.6	1,218.2	790.0	75.1	353.1	...	17.4
Hardwood:							
Red oaks	362.5	258.5	115.2	51.1	92.2	34.5	69.5
White oaks	157.3	118.6	53.7	23.0	41.9	14.0	24.7
Hickories	135.1	111.2	51.1	19.0	41.1	9.6	14.3
Yellow-poplar	119.2	107.7	57.2	18.9	31.6	3.7	7.8
Sweetgum	305.7	265.5	108.5	40.4	116.6	7.9	32.3
Black and tupelo gums	281.7	241.2	103.5	40.9	96.8	8.3	32.2
Other hardwoods	464.1	292.7	116.9	48.1	127.7	23.8	147.6
Total	1,825.6	1,395.4	606.1	241.4	547.9	101.8	328.4
All species	3,061.2	2,613.6	1,396.1	316.5	901.0	101.8	345.8
SOUTHWEST-NORTH							
Softwood							
Loblolly pine	866.0	862.2	655.4	52.8	154.0	...	3.8
Shortleaf pine	375.4	372.7	236.9	21.8	114.0	...	2.7
Longleaf pine	98.6	98.2	72.8	6.5	18.9	...	.4
Slash pine	19.0	19.0	11.1	1.0	6.9	...	...
Other pines	58.5	58.1	46.4	3.9	7.8	...	.4
Other softwoods	20.4	20.0	16.1	1.4	2.5	...	.4
Total	1,437.9	1,430.2	1,038.7	87.4	304.1	...	7.7
Hardwood:							
Red oaks	336.7	257.0	119.9	52.3	84.8	34.2	45.5
White oaks	212.2	175.0	76.6	33.3	65.1	20.1	17.1
Hickories	104.6	90.6	41.5	17.2	31.9	7.5	6.5
Yellow-poplar	58.5	53.4	31.2	10.3	11.9	2.2	2.9
Sweetgum	263.8	233.3	94.3	37.8	101.2	7.7	22.8
Black and tupelo gums	128.6	110.4	48.4	19.4	42.6	4.5	13.7
Other hardwoods	388.2	260.4	107.2	47.8	105.4	29.5	98.3
Total	1,492.6	1,180.1	519.1	218.1	442.9	105.7	206.8
All species	2,930.5	2,610.3	1,557.8	305.5	747.0	105.7	214.5
SOUTHWEST-SOUTH							
Softwood:							
Loblolly pine	106.9	104.6	78.3	7.4	18.9	...	2.3
Shortleaf pine	23.9	23.7	13.6	1.5	8.6	...	.2
Longleaf pine	498.8	497.0	296.9	33.1	167.0	...	1.8
Slash pine	397.5	395.5	280.4	25.2	89.9	...	2.0
Other pines	9.5	8.7	7.0	.5	1.2	...	.8
Other softwoods	44.7	42.8	32.3	3.0	7.5	...	1.9
Total	1,081.3	1,072.3	708.5	70.7	293.1	...	9.0
Hardwood:							
Red oaks	127.8	90.0	41.5	18.6	29.9	15.6	22.2
White oaks	62.6	51.5	28.5	10.9	12.1	8.0	3.1
Hickories	13.3	7.9	4.2	2.1	1.6	1.4	4.0
Yellow-poplar	37.6	33.0	18.5	6.2	8.3	1.5	3.1
Sweetgum	64.2	56.2	24.2	9.0	23.0	2.7	5.3
Black and tupelo gums	314.4	257.0	119.8	46.8	90.4	15.4	42.0
Other hardwoods	275.8	175.3	68.4	29.6	77.3	16.5	84.0
Total	895.7	670.9	305.1	123.2	242.6	61.1	163.7
All species	1,977.0	1,743.2	1,013.6	193.9	535.7	61.1	172.7

1/ Sound volume in dead trees considered salvable is not included. This volume is as follows:

Region	Softwood	Hardwood
	Million cubic feet	
North	4.1	7.0
North Central	10.3	9.6
West Central	3.8	8.2

Region	Softwood	Hardwood
	Million cubic feet	
Southeast	6.0	2.9
Southwest-North	5.2	5.4
Southwest-South	3.2	3.3
Total	32.6	36.4

Table 14.--Growing stock by species and Survey region, 1951-53

Species	State of Alabama	North	North Central	West Central	Southeast	Southwest-North	Southwest-South
	Million cubic feet						
Softwood:							
Loblolly pine	2,605.9	85.6	458.6	345.9	749.0	862.2	104.6
Shortleaf pine	1,306.3	98.1	311.2	212.2	288.4	372.7	23.7
Longleaf pine	896.5	...	143.3	51.7	106.3	98.2	497.0
Slash pine	440.8	...	...	...	26.3	19.0	395.5
Virginia pine	159.8	36.0	99.3	17.7	6.7	0.1	...
Other pines	89.0	...	...	0.3	22.0	58.0	8.7
Cypress	80.0	...	...	13.8	16.4	17.4	32.4
Other softwoods	37.8	18.7	1.7	1.3	3.1	2.6	10.4
Total	5,616.1	238.4	1,014.1	642.9	1,218.2	1,430.2	1,072.3
Hardwood:							
Black, scarlet, and southern red oaks	646.3	120.9	205.6	110.9	82.5	92.1	34.3
Cherrybark, Shumard, and northern red oaks	185.9	59.7	35.0	35.4	20.7	32.1	3.0
Water oaks	476.0	18.3	28.5	88.4	155.3	132.8	52.7
White oak	433.7	99.2	115.8	65.0	63.0	72.2	18.5
Other white oaks	538.6	99.7	145.5	102.0	55.6	102.8	33.0
Pecan	32.1	.2	.7	1.6	...	16.0	13.6
Other hickories	745.0	179.9	210.9	144.5	111.2	90.6	7.9
Sweetgum	881.2	48.7	78.0	199.5	265.5	233.3	56.2
Black and tupelo gums	835.6	35.6	42.2	149.2	241.2	110.4	257.0
Cottonwood	17.8	.2	.1	2.0	8.9	3.9	2.7
Willow	28.7	1.5	3.1	5.9	10.6	6.5	1.1
Soft maples	108.4	10.0	17.9	22.3	31.7	14.4	12.1
Yellow-poplar	310.7	31.2	52.3	33.1	107.7	53.4	33.0
Sweetbay and magnolia	249.9	1.6	1.5	21.5	83.8	48.0	93.5
Elms	140.5	23.8	13.9	15.8	35.8	38.5	12.7
Ash	126.5	18.9	10.7	12.9	32.8	31.8	19.4
Beech	93.1	16.9	13.3	11.1	20.0	29.8	2.0
Sycamore	31.1	2.0	2.2	2.5	10.4	11.9	2.1
Hackberry	75.8	3.2	2.0	10.1	17.9	31.0	11.6
Other hardwoods	139.4	32.2	14.9	18.4	40.8	28.6	4.5
Total	6,096.3	803.7	994.1	1,052.1	1,395.4	1,180.1	670.9
All species	11,712.4	1,042.1	2,008.2	1,695.0	2,613.6	2,610.3	1,743.2

Table 15. --Distribution of growing stock by species within each forest type, 1951-53

Species	All types	Pine	Pine-hardwood	Other softwood	Bottomland hardwood	Upland hardwood
			Percent			
Softwood:						
Loblolly pine	22.2	38.9	14.2	0.7	2.1	2.4
Shortleaf pine	11.2	18.6	10.9	...	.1	2.3
Longleaf pine	7.7	14.3	2.5	...	.1	.5
Slash pine	3.8	6.6	1.8	.5	.8	.1
Other pines	2.1	2.8	3.8	.2	.6	.8
Cypress	.7	.1	(1/)	...	3.3	(1/)
Other softwoods	.3	.1	.3	42.6	.1	.3
Total	48.0	81.4	33.5	44.0	7.1	6.4
Hardwood:						
Black, scarlet and southern red oaks	5.5	2.9	11.1	...	0.3	15.2
Cherrybark, Shumard and northern red oaks	1.6	.3	1.2	6.8	2.0	5.1
Water oaks	4.1	1.2	4.7	1.2	11.8	3.3
White oak	3.7	1.4	7.0	...	1.5	10.8
Other white oaks	4.6	2.0	7.7	8.9	3.9	10.8
Pecan	.3	(1/)	...	...	1.4	(1/)
Other hickories	6.3	2.0	10.0	19.1	3.0	20.2
Sweetgum	7.5	3.9	8.6	1.0	16.4	7.7
Black and tupelo gums	7.1	2.0	5.1	.5	23.8	4.8
Cottonwood	.2	(1/)	.2	...	.5	(1/)
Willow	.2	(1/)	.2	...	.9	.1
Maples	1.1	.2	1.3	3.1	2.6	1.8
Yellow-poplar	2.7	1.0	4.4	.7	3.5	5.2
Sweetbay and magnolia	2.1	.8	2.2	1.2	6.6	1.1
Elms	1.2	.2	.7	5.1	3.8	1.5
Ash	1.1	.2	.4	5.3	3.6	1.3
Beech	.8	.2	.8	...	1.2	2.2
Sycamore	.3	(1/)	.2	...	.9	.3
Hackberry	.6	(1/)	(1/)	.2	3.2	.1
Other hardwoods	1.0	.3	.7	2.9	2.0	2.1
Total	52.0	18.6	66.5	56.0	92.9	93.6
All species	100.0	100.0	100.0	100.0	100.0	100.0

1/ Negligible.

Table 16. --Growing stock by species and stand size, by Survey region, 1951-1953

Species	All stand sizes	Large saw-timber	Small saw-timber	Pole-timber	Seedling and sapling	Nonstocked and other areas 1/
	Million cubic feet					
STATE OF ALABAMA						
Softwood:						
Loblolly pine	2,605.9	666.5	1,154.1	726.3	58.5	0.5
Shortleaf pine	1,306.3	121.9	567.9	572.9	43.1	.5
Longleaf pine	896.5	55.5	480.8	316.9	41.0	2.3
Slash pine	440.8	66.7	237.7	124.1	12.0	.3
Other pines	248.8	71.0	98.0	74.6	5.0	.2
Other softwoods	117.8	57.2	38.7	19.4	2.5	...
Total	5,616.1	1,038.8	2,577.2	1,834.2	162.1	3.8
Hardwood:						
Red oaks	1,308.2	351.2	340.1	577.9	37.6	1.4
White oaks	972.3	250.0	243.1	455.1	23.7	.4
Hickories	745.0	152.9	175.1	397.4	19.4	.2
Yellow-poplar	310.7	83.6	123.6	99.6	3.9	...
Sweetgum	881.2	228.0	280.9	353.4	18.7	.2
Black and tupelo gums	835.6	255.7	296.8	274.1	8.6	.4
Other hardwoods	1,043.3	344.2	325.8	353.3	19.7	.3
Total	6,096.3	1,665.6	1,785.4	2,510.8	131.6	2.9
All species	11,712.4	2,704.4	4,362.6	4,345.0	293.7	6.7
NORTH						
Softwood types:						
Loblolly pine	85.6	29.8	29.7	25.1	1.0	...
Shortleaf pine	98.1	13.3	49.2	32.2	3.4	2/
Longleaf pine	...	...	...	...	...	...
Slash pine	...	...	...	...	...	...
Other pines	36.0	6.4	21.3	7.6	.7	...
Other softwoods	18.7	4.0	3.4	10.6	.7	...
Total	238.4	53.5	103.6	75.5	5.8	...
Hardwood:						
Red oaks	198.9	51.6	67.3	78.6	1.4	...
White oaks	198.9	55.8	60.4	79.8	2.9	...
Hickories	179.9	33.3	49.0	95.2	2.4	...
Yellow-poplar	31.2	11.4	10.0	9.5	.3	...
Sweetgum	48.7	12.9	14.1	20.5	1.1	.1
Black and tupelo gums	35.6	13.3	6.3	14.9	1.1	...
Other hardwoods	110.5	40.9	20.6	47.3	1.7	...
Total	803.7	219.2	227.7	345.8	10.9	.1
All species	1,042.1	272.7	331.3	421.3	16.7	.1
NORTH CENTRAL						
Softwood types:						
Loblolly pine	458.6	121.9	172.3	146.3	17.8	.3
Shortleaf pine	311.2	17.0	99.0	182.9	12.1	.2
Longleaf pine	143.3	12.7	66.9	57.2	6.3	.2
Slash pine	...	...	...	...	...	...
Other pines	99.3	21.8	39.3	34.5	3.7	...
Other softwoods	1.7	1.3	.2	.1	.1	...
Total	1,014.1	174.7	377.7	421.0	40.0	.7
Hardwood:						
Red oaks	269.1	51.4	51.1	152.6	13.4	.6
White oaks	261.3	65.2	43.4	143.4	8.9	.4
Hickories	210.9	33.6	39.8	129.4	8.1	...
Yellow-poplar	52.3	20.7	13.5	16.2	1.9	...
Sweetgum	78.0	26.6	12.7	34.1	4.6	...
Black and tupelo gums	42.2	9.2	8.7	22.5	1.8	...
Other hardwoods	80.3	28.3	11.3	36.4	4.3	...
Total	994.1	235.0	180.5	534.6	43.0	1.0
All species	2,008.2	409.7	558.2	955.6	83.0	1.7
WEST CENTRAL						
Softwood:						
Loblolly pine	345.9	67.3	120.8	149.9	7.8	.1
Shortleaf pine	212.2	8.3	64.1	133.9	5.9	...
Longleaf pine	51.7	5.3	21.6	19.8	5.0	...
Other pines	18.0	.1	2.3	15.0	.4	.2
Other softwoods	15.1	6.8	7.2	.5	.6	...
Total	642.9	87.8	216.0	319.1	19.7	.3
Hardwood:						
Red oaks	234.7	68.7	44.8	114.0	7.2	...
White oaks	167.0	31.5	32.7	97.2	5.6	...
Hickories	144.5	30.0	24.3	84.4	5.8	2/
Yellow-poplar	33.1	9.2	10.1	13.3	.5	...
Sweetgum	199.5	72.6	50.9	73.1	2.9	...
Black and tupelo gums	149.2	48.3	49.8	49.1	2.0	...
Other hardwoods	124.1	46.8	28.0	45.5	3.8	...
Total	1,052.1	307.1	240.6	476.6	27.8	2/
All species	1,695.0	394.9	456.6	795.7	47.5	.3

All stand sizes	Large saw-timber	Small saw-timber	Pole-timber	Seedling and sapling	Nonstocked and other areas 1/
Million cubic feet					
SOUTHEAST					
749.0	152.2	347.2	225.9	23.7	...
288.4	26.4	126.3	116.5	19.0	.2
106.3	10.2	49.4	40.6	6.0	.1
26.3	3.8	10.6	10.4	1.5	...
28.7	8.4	11.9	8.3	.1	...
19.5	12.1	4.0	3.2	.2	...
1,218.2	213.1	549.4	404.9	50.5	.3
258.5	56.8	77.0	114.9	9.8	...
118.6	21.0	35.9	57.1	4.6	...
111.2	28.2	31.6	49.0	2.2	.2
107.7	16.0	49.4	41.4	.9	...
265.5	39.1	110.7	108.9	6.7	.1
241.2	42.0	95.8	101.4	2.0	2/
292.7	73.9	108.4	103.8	6.6	...
1,395.4	277.0	508.8	576.5	32.8	.3
2,613.6	490.1	1,058.2	981.4	83.3	.6
SOUTHWEST-NORTH					
862.2	281.6	421.9	153.0	5.7	...
372.7	52.6	218.3	99.3	2.5	...
98.2	22.4	50.0	24.2	1.6	...
19.0	5.3	7.4	6.3	...	...
58.1	28.8	21.9	7.3	.1	...
20.0	11.1	5.9	2.9	.1	...
1,430.2	401.8	725.4	293.0	10.0	...
257.0	88.2	77.3	87.4	4.1	...
175.0	50.5	60.5	62.7	1.3	...
90.6	26.8	27.5	35.8	.5	...
53.4	22.6	20.7	9.9	.2	...
233.3	54.3	80.0	96.0	3.0	...
110.4	32.9	40.2	36.7	.6	...
260.4	86.5	92.0	80.1	1.8	...
1,180.1	361.8	398.2	408.6	11.5	...
2,610.3	763.6	1,123.6	701.6	21.5	...
SOUTHWEST-SOUTH					
104.6	13.7	62.2	26.1	2.5	.1
23.7	4.3	11.0	8.1	.2	.1
497.0	4.9	292.9	175.1	22.1	2.0
395.5	57.6	219.7	107.4	10.5	.3
8.7	5.5	1.3	1.9	...	...
42.8	21.9	18.0	2.1	.8	...
1,072.3	107.9	605.1	320.7	36.1	2.5
90.0	34.5	22.6	30.4	1.7	.8
51.5	26.0	10.2	14.9	.4	...
7.9	1.0	2.9	3.6	.4	...
33.0	3.7	19.9	9.3	.1	...
56.2	22.5	12.5	20.8	.4	...
257.0	110.0	96.0	49.5	1.1	.4
175.3	67.8	65.5	40.2	1.5	.3
670.9	265.5	229.6	168.7	5.6	1.5
1,743.2	373.4	834.7	489.4	41.7	4.0

1/ Includes areas not classified elsewhere.
2/ Negligible

Table 17.--Average volume per acre of growing stock by forest type and Survey region, 1951-53

Forest type	State	North	North Central	West Central	South-east	South-west-North	South-west-South
				Cubic feet			
Softwood types:							
Pine	538	549	460	467	447	866	502
Pine-hardwood	451	434	356	424	447	654	580
Other softwood	251	285	...	...	126	11	1,500
Total	515	471	429	453	445	819	510
Hardwood types:							
Bottomland hardwood	960	580	546	1,018	868	980	1,357
Upland hardwood	507	576	458	498	488	637	241
Total	677	576	465	710	699	848	1,036
All types	564	533	439	543	519	827	597

Table 18.--Average volume per acre of growing stock by stand size and forest type, 1951-53

Forest type	All stand sizes	Large saw-timber	Small saw-timber	Pole-timber	Seedling and sapling	Nonstocked and other areas 1/
			Cubic feet			
Softwood types:						
Pine	538	1,537	1,037	360	78	29
Pine-hardwood	451	1,376	915	369	78	2/
Other softwood	251	914	974	247	50	...
Total	515	1,500	1,018	361	78	26
Hardwood types:						
Bottomland hardwood	960	1,647	1,299	605	177	15
Upland hardwood	507	1,104	852	414	88	31
Total	677	1,400	1,077	474	113	30
All types	564	1,449	1,033	398	84	27

1/ Includes areas not classified elsewhere.
2/ Negligible.

Table 19. --Sawtimber volume by species and tree diameter, by Survey region, 1951-1953

Species	All diameter classes	10 - 12 inches 1/	14 - 18 inches	20 - 24 inches	26 inches and up
	Million board feet				
STATE OF ALABAMA					
Softwood:					
Loblolly pine	11,306.7	4,538.5	4,967.5	1,417.1	383.6
Shortleaf pine	3,989.8	2,657.5	1,251.2	81.1	...
Longleaf pine	3,294.4	2,033.7	1,157.1	92.9	10.7
Slash pine	1,856.6	852.3	929.7	74.6	...
Other pines	964.4	395.5	418.4	150.5	...
Other softwoods	517.0	116.2	255.4	91.9	53.5
Total	21,928.9	10,593.7	8,979.3	1,908.1	447.8
Hardwood:					
Red oaks	3,686.0	718.9	1,891.0	653.7	422.4
White oaks	2,541.3	599.0	1,234.5	432.0	275.8
Hickories	1,810.2	451.3	1,042.5	241.4	75.0
Yellow-poplar	1,057.1	183.7	612.8	171.7	88.9
Sweetgum	2,316.2	596.8	1,347.8	308.0	63.6
Black and tupelo gums	2,308.2	522.8	1,265.1	407.5	112.8
Other hardwoods	2,562.7	570.4	1,382.2	451.6	158.5
Total	16,281.7	3,642.9	8,775.9	2,665.9	1,197.0
All species	38,210.6	14,236.6	17,755.2	4,574.0	1,644.8
NORTH					
Softwood:					
Loblolly pine	367.6	120.4	180.8	59.2	7.2
Shortleaf pine	302.4	192.7	103.8	5.9	...
Longleaf pine	...	...	...	...	...
Slash pine	...	...	...	...	...
Other pines	133.4	56.5	76.9	...	...
Other softwoods	39.7	20.6	9.4	9.7	...
Total	843.1	390.2	370.9	74.8	7.2
Hardwood:					
Red oaks	577.7	131.1	298.3	79.8	68.5
White oaks	521.2	121.5	242.1	84.1	73.5
Hickories	406.3	113.8	237.3	48.5	6.7
Yellow-poplar	119.1	11.6	53.3	37.3	16.9
Sweetgum	145.1	26.9	78.2	29.9	10.1
Black and tupelo gums	105.2	17.5	59.8	27.9	...
Other hardwoods	280.2	38.3	128.7	73.7	39.5
Total	2,154.8	460.7	1,097.7	381.2	215.2
All species	2,997.9	850.9	1,468.6	456.0	222.4
NORTH CENTRAL					
Softwood:					
Loblolly pine	1,948.9	798.9	852.9	249.1	48.0
Shortleaf pine	796.1	597.9	191.2	7.0	...
Longleaf pine	549.5	322.0	186.8	40.7	...
Slash pine	...	...	...	...	...
Other pines	342.1	184.6	137.9	19.6	...
Other softwoods	7.0	1.2	5.8	...	...
Total	3,643.6	1,904.6	1,374.6	316.4	48.0
Hardwood:					
Red oaks	671.9	159.6	359.9	126.0	26.4
White oaks	610.9	162.5	340.8	87.0	20.6
Hickories	431.8	129.8	258.5	43.5	...
Yellow-poplar	179.4	23.9	111.5	33.2	10.8
Sweetgum	197.1	49.7	99.4	48.0	...
Black and tupelo gums	91.9	21.2	48.4	22.3	...
Other hardwoods	163.9	43.8	92.0	28.1	...
Total	2,346.9	590.5	1,310.5	388.1	57.8
All species	5,990.5	2,495.1	2,685.1	704.5	105.8
WEST CENTRAL					
Softwood:					
Loblolly pine	1,353.0	563.3	611.2	143.4	35.1
Shortleaf pine	522.1	408.3	113.8	...	...
Longleaf pine	227.3	107.2	105.0	4.4	10.7
Other pines	30.9	25.0	5.9	...	...
Other softwoods	78.6	15.8	27.2	14.5	21.1
Total	2,211.9	1,119.6	863.1	162.3	66.9
Hardwood:					
Red oaks	659.9	128.6	317.5	102.3	111.5
White oaks	389.6	104.8	190.9	70.2	23.7
Hickories	360.8	93.9	190.5	53.1	23.3
Yellow-poplar	76.4	21.2	46.5	3.7	5.0
Sweetgum	563.7	133.8	342.9	87.0	...
Black and tupelo gums	419.5	91.4	221.0	59.4	47.7
Other hardwoods	291.9	59.6	156.2	54.5	21.6
Total	2,761.8	633.3	1,465.5	430.2	232.8
All species	4,973.7	1,752.9	2,328.6	592.5	299.7

All diameter classes	10 - 12 inches 1/	14 - 18 inches	20 - 24 inches	26 inches and up
Million board feet				
SOUTHEAST				
3,142.1	1,409.5	1,241.1	344.5	147.0
887.5	621.7	244.9	20.9	...
363.3	211.8	146.5	5.0	...
107.6	40.9	63.7	3.0	...
125.9	48.3	52.6	25.0	...
94.4	17.5	67.3	9.6	...
4,720.8	2,349.7	1,816.1	408.0	147.0
736.8	131.5	395.8	139.5	70.0
340.2	78.8	187.4	54.5	19.5
322.6	51.1	198.1	54.7	18.7
361.3	76.8	233.4	32.3	18.8
671.3	204.8	374.7	54.3	37.5
636.7	201.0	363.3	52.1	20.3
729.2	175.5	412.5	101.5	39.7
3,798.1	919.5	2,165.2	488.9	224.5
8,518.9	3,269.2	3,981.3	896.9	371.5
SOUTHWEST-NORTH				
4,020.0	1,461.5	1,834.2	600.5	123.8
1,403.3	786.1	576.2	41.0	...
441.8	213.5	196.9	31.4	...
68.3	20.4	47.9	...	...
289.9	70.0	114.0	105.9	...
99.5	13.3	48.1	32.3	5.8
6,322.8	2,564.8	2,817.3	811.1	129.6
767.3	130.6	420.2	165.8	50.7
489.4	105.9	228.3	96.1	59.1
263.2	56.9	143.4	36.6	26.3
201.4	30.8	120.5	30.2	19.9
585.6	151.9	364.0	63.2	6.5
301.5	60.6	173.9	47.6	19.4
671.0	155.8	360.4	128.7	26.1
3,279.4	692.5	1,810.7	568.2	208.0
9,602.2	3,257.3	4,628.0	1,379.3	337.6
SOUTHWEST-SOUTH				
475.1	184.9	247.3	20.4	22.5
78.4	50.8	21.3	6.3	...
1,712.5	1,179.2	521.9	11.4	...
1,680.7	791.0	818.1	71.6	...
42.2	11.1	31.1	...	...
197.8	47.8	97.6	25.8	26.6
4,186.7	2,264.8	1,737.3	135.5	49.1
272.4	37.5	99.3	40.3	95.3
190.0	25.5	45.0	40.1	79.4
25.5	5.8	14.7	5.0	...
119.5	19.4	47.6	35.0	17.5
153.4	29.7	88.6	25.6	9.5
753.4	131.1	398.7	198.2	25.4
426.5	97.4	232.4	65.1	31.6
1,940.7	346.4	926.3	409.3	258.7
6,127.4	2,611.2	2,663.6	544.8	307.8

1/ Hardwood sawtimber volume not tallied in trees under 11.0 inches d.b.h.

Table 20. --Sawtimber volume by species and stand size, by Survey region, 1951-1953

Species	All stand sizes	Large sawtimber	Small sawtimber	Pole-timber	Seedling and sapling	Nonstocked and other areas 1/
	Million board feet					
STATE OF ALABAMA						
Softwood:						
Loblolly pine	11,306.7	3,873.3	5,295.2	1,971.5	165.7	1.0
Shortleaf pine	3,989.8	614.3	2,205.8	1,084.6	84.1	1.0
Longleaf pine	3,294.4	320.0	1,916.3	903.6	147.4	7.1
Slash pine	1,856.6	362.0	1,086.0	366.2	41.4	1.0
Other pines	964.4	369.9	391.7	187.6	15.2	...
Other softwoods	517.0	310.3	167.3	31.4	8.0	...
Total	21,928.9	5,849.8	11,062.3	4,544.9	461.8	10.1
Hardwood:						
Red oaks	3,686.0	1,388.5	983.9	1,212.2	98.9	2.5
White oaks	2,541.3	963.5	684.0	846.6	46.0	1.2
Hickories	1,810.2	531.4	490.8	744.3	43.0	0.7
Yellow-poplar	1,057.1	358.6	465.0	225.4	8.1	...
Sweetgum	2,316.2	882.5	790.2	603.3	40.2	...
Black and tupelo gums	2,308.2	1,003.5	763.3	524.4	16.2	.8
Other hardwoods	2,562.7	1,100.2	816.2	605.8	40.2	.3
Total	16,281.7	6,228.2	4,993.4	4,762.0	292.6	5.5
All species	38,210.6	12,078.0	16,055.7	9,306.9	754.4	15.6
NORTH						
Softwood:						
Loblolly pine	367.6	162.9	136.4	66.5	1.8	...
Shortleaf pine	302.4	62.4	187.4	51.6	1.0	...
Longleaf pine	...	...	...	...	...	...
Slash pine	...	...	...	...	...	...
Other pines	133.4	25.7	97.0	10.0	.7	...
Other softwoods	39.7	19.7	8.4	11.2	.4	...
Total	843.1	270.7	429.2	139.3	3.9	...
Hardwood:						
Red oaks	577.7	193.1	206.1	176.2	2.3	...
White oaks	521.2	212.9	160.8	143.3	4.2	...
Hickories	406.3	97.9	143.7	158.9	5.8	...
Yellow-poplar	119.1	52.6	42.3	24.2	...	...
Sweetgum	145.1	48.0	48.2	45.8	3.1	...
Black and tupelo gums	105.2	49.3	17.0	37.7	1.2	...
Other hardwoods	280.2	138.7	45.2	94.5	1.8	...
Total	2,154.8	792.5	663.3	680.6	18.4	...
All species	2,997.9	1,063.2	1,092.5	819.9	22.3	...
NORTH CENTRAL						
Softwood types:						
Loblolly pine	1,948.9	724.2	776.5	382.5	65.3	.4
Shortleaf pine	796.1	72.1	377.7	318.6	27.4	.3
Longleaf pine	549.5	76.7	255.5	191.1	25.1	1.1
Slash pine	...	...	...	...	...	...
Other pines	342.1	104.1	137.6	86.5	13.9	...
Other softwoods	7.0	5.1	1.3	.3	.3	...
Total	3,643.6	982.2	1,548.6	979.0	132.0	1.8
Hardwood:						
Red oaks	671.9	207.1	127.3	301.4	35.3	.8
White oaks	610.9	242.6	112.7	238.8	15.6	1.2
Hickories	431.8	98.6	100.2	218.1	14.9	...
Yellow-poplar	179.4	91.4	52.9	28.2	6.9	...
Sweetgum	197.1	105.6	30.4	54.3	6.8	...
Black and tupelo gums	91.9	28.2	21.3	38.3	4.1	...
Other hardwoods	163.9	83.9	15.8	56.2	8.0	...
Total	2,346.9	857.4	460.6	935.3	91.6	2.0
All species	5,990.5	1,839.6	2,009.2	1,914.3	223.6	3.8
WEST CENTRAL						
Softwood:						
Loblolly pine	1,353.0	382.6	576.6	371.0	22.8	...
Shortleaf pine	522.1	40.0	235.5	234.2	12.4	...
Longleaf pine	227.3	31.6	101.6	69.8	24.3	...
Other pines	30.9	...	5.5	25.4	...	...
Other softwoods	78.6	38.5	36.9	...	3.2	...
Total	2,211.9	492.7	956.1	700.4	62.7	...
Hardwood:						
Red oaks	659.9	269.2	133.5	237.1	20.1	...
White oaks	389.6	120.3	95.2	164.3	9.8	...
Hickories	360.8	113.0	67.7	164.1	16.0	...
Yellow-poplar	76.4	27.1	23.1	25.7	.5	...
Sweetgum	563.7	314.7	122.1	120.2	6.7	...
Black and tupelo gums	419.5	196.5	136.9	82.8	3.3	...
Other hardwoods	291.9	141.9	59.5	79.9	10.6	...
Total	2,761.8	1,182.7	638.0	874.1	67.0	...
All species	4,973.7	1,675.4	1,594.1	1,574.5	129.7	...

All stand sizes	Large sawtimber	Small sawtimber	Pole-timber	Seedling and sapling	Nonstocked and other areas 1/
Million board feet					
SOUTHEAST					
3,142.1	878.2	1,593.0	621.7	49.2	...
887.5	131.5	489.4	227.0	38.9	.7
363.3	56.2	182.1	106.2	18.8	...
107.6	21.2	48.0	30.3	8.1	...
125.9	48.5	48.4	29.0	...	...
94.4	66.2	21.2	6.3	.7	...
4,720.8	1,201.8	2,382.1	1,020.5	115.7	.7
736.8	226.2	222.7	261.4	26.5	...
340.2	83.9	117.4	125.8	13.1	...
322.6	114.6	92.2	109.9	5.2	.7
361.3	67.5	193.9	99.2	.7	...
671.3	135.9	340.3	183.5	11.6	...
636.7	159.7	265.5	206.6	4.9	...
729.2	244.3	307.7	163.0	14.2	...
3,798.1	1,032.1	1,539.7	1,149.4	76.2	.7
8,518.9	2,233.9	3,921.8	2,169.9	191.9	1.4
SOUTHWEST-NORTH					
4,020.0	1,648.2	1,913.5	441.3	17.0	...
1,403.3	284.7	877.4	237.1	4.1	...
441.8	128.0	229.1	79.4	5.3	...
68.3	30.0	30.8	7.5	...	...
289.9	161.6	98.4	29.3	.6	...
99.5	63.6	28.4	7.1	.4	...
6,322.8	2,316.1	3,177.6	801.7	27.4	...
767.3	342.2	229.9	182.0	13.2	...
489.4	182.8	163.5	139.8	3.3	...
263.2	103.6	77.0	82.4	.2	...
201.4	104.4	71.6	25.4	...	...
585.6	187.2	215.6	172.5	10.3	...
301.5	125.0	90.4	84.8	1.3	...
671.0	268.8	242.6	155.3	4.3	...
3,279.4	1,314.0	1,090.6	842.2	32.6	...
9,602.2	3,630.1	4,268.2	1,643.9	60.0	...
SOUTHWEST-SOUTH					
475.1	77.2	299.2	88.5	9.6	.6
78.4	23.6	38.4	16.1	.3	...
1,712.5	27.5	1,148.0	457.1	73.9	6.0
1,680.7	310.8	1,007.2	328.4	33.3	1.0
42.2	30.0	4.8	7.4	...	...
197.8	117.2	71.1	6.5	3.0	...
4,186.7	586.3	2,568.7	904.0	120.1	7.6
272.4	150.7	64.4	54.1	1.5	1.7
190.0	121.0	34.4	34.6	...	...
25.5	3.7	10.0	10.9	.9	...
119.5	15.6	81.2	22.7	...	...
153.4	91.1	33.6	27.0	1.7	...
753.4	444.8	232.2	74.2	1.4	.8
426.5	222.6	145.4	56.9	1.3	.3
1,940.7	1,049.5	601.2	280.4	6.8	2.8
6,127.4	1,635.8	3,169.9	1,184.4	126.9	10.4

1/ Includes areas not classified elsewhere.

Table 21.--Sawtimber volume by species and Survey region, 1951-53

Species	State	North	North Central	West Central	Southeast	Southwest-North	Southwest-South
				Million board feet			
Softwood:							
Loblolly pine	11,306.7	367.6	1,948.9	1,353.0	3,142.1	4,020.0	475.1
Shortleaf pine	3,989.8	302.4	796.1	522.1	887.5	1,403.3	78.4
Longleaf pine	3,294.4	...	549.5	227.3	363.3	441.8	1,712.5
Slash pine	1,856.6	...	...	...	107.6	68.3	1,680.7
Virginia pine	526.0	133.4	342.1	30.6	19.9	...	...
Other pines	438.4	...	...	.3	106.0	289.9	42.2
Cypress	415.8	...	...	75.6	85.9	94.4	159.9
Other softwoods	101.2	39.7	7.0	3.0	8.5	5.1	37.9
Total	21,928.9	843.1	3,643.6	2,211.9	4,720.8	6,322.8	4,186.7
Hardwood:							
Black, scarlet and southern red oaks	1,623.0	335.5	477.3	260.7	232.7	241.0	75.8
Cherrybark, Shumard and northern red oaks	662.0	193.1	118.0	135.2	86.4	117.8	11.5
Water oaks	1,401.0	49.1	76.6	264.0	417.7	408.5	185.1
White oak	1,265.6	280.7	327.8	158.9	217.3	210.3	70.6
Other white oaks	1,275.7	240.5	283.1	230.7	122.9	279.1	119.4
Pecan	124.0	.7	3.0	6.9	...	57.1	56.3
Other hickories	1,810.2	406.3	431.8	360.8	322.6	263.2	25.5
Sweetgum	2,316.2	145.1	197.1	563.7	671.3	585.6	153.4
Black and tupelo gums	2,308.2	105.2	91.9	419.5	636.7	301.5	753.4
Cottonwood	64.1	.6	...	3.6	36.4	15.4	8.1
Willow	51.7	.9	4.2	11.6	17.8	16.1	1.1
Soft maples	204.4	22.2	32.7	41.7	64.5	24.4	18.9
Yellow-poplar	1,057.1	119.1	179.4	76.4	361.3	201.4	119.5
Sweetbay and magnolia	505.7	4.9	.6	41.7	166.7	106.7	185.1
Elms	370.4	53.0	26.3	40.2	100.7	104.0	46.2
Ash	326.7	55.8	25.1	33.2	79.6	72.9	60.1
Beech	344.3	66.1	51.0	40.1	73.7	105.0	8.4
Sycamore	105.7	3.9	9.4	7.4	38.4	42.2	4.4
Hackberry	215.7	5.6	1.2	30.5	61.8	83.2	33.4
Other hardwoods	250.0	66.5	10.4	35.0	89.6	44.0	4.5
Total	16,281.7	2,154.8	2,346.9	2,761.8	3,798.1	3,279.4	1,940.7
All species	38,210.6	2,997.9	5,990.5	4,973.7	8,518.9	9,602.2	6,127.4

Table 22. --Average sawtimber volume per acre by forest type and Survey region, 1951-53

Forest type	State	North	North Central	West Central	South-east	Southwest-North	Southwest-South
				Board feet			
Softwood types:							
Pine	1,936	1,869	1,534	1,439	1,609	3,461	1,819
Pine-hardwood	1,293	1,215	917	1,092	1,302	2,127	1,934
Other softwood	614	675	...	...	307	...	5,045
Total	1,776	1,477	1,350	1,329	1,539	3,183	1,833
Hardwood types:							
Bottomland hardwood	3,023	1,702	1,423	3,235	2,570	3,224	4,557
Upland hardwood	1,370	1,554	1,189	1,297	1,434	1,765	678
Total	1,990	1,572	1,208	2,085	2,065	2,659	3,444
All types	1,841	1,533	1,310	1,594	1,693	3,042	2,100

Table 23. --Average sawtimber volume per acre by stand size and forest type, 1951-53

Forest type	All stand sizes	Large saw-timber	Small saw-timber	Pole-timber	Seedling and sapling	Nonstocked and other areas 1/
				Board feet		
Softwood types:						
Pine	1,936	7,793	4,121	814	214	72
Pine-hardwood	1,293	5,814	3,099	788	168	...
Other softwood	614	3,951	3,026	422	96	...
Total	1,776	7,374	3,959	802	203	64
Hardwood types:						
Bottomland hardwood	3,023	6,704	4,008	1,253	504	...
Upland hardwood	1,370	4,310	2,654	821	184	64
Total	1,990	5,614	3,336	956	273	58
All types	1,841	6,471	3,801	853	215	63

1/ Includes areas not classified elsewhere.

Table 24 --Softwood sawtimber volume by log grade and stand quality, by species group and Survey region, 1951-53

Species group and Survey region	All grades	Grade 1	Grade 2	Grade 3			Grade 4		
				Total	In fair and better stands	In poor stands	Total	In fair and better stands	In poor stands
				Million board feet					
Species group:									
Loblolly pine	11,306.7	329.5	1,357.3	3,713.4	1,163.6	2,549.8	5,906.5	1,505.4	4,401.1
Shortleaf pine	3,989.8	9.0	371.2	1,575.2	412.8	1,162.4	2,034.4	484.3	1,550.1
Longleaf pine	3,294.4	12.7	377.2	1,456.8	200.6	1,256.2	1,447.7	243.4	1,204.3
Slash pine	1,856.6	15.4	314.5	946.6	286.2	660.4	580.1	174.3	405.8
Other pines	964.4	20.3	69.3	290.5	136.0	154.5	584.3	214.7	369.6
Other softwoods 1/	517.0	70.8	132.1	175.3	170.3	5.0	138.8	125.9	12.9
Total	21,928.9	457.7	2,621.6	8,157.8	2,369.5	5,788.3	10,691.8	2,748.0	7,943.8
Survey region:									
North	843.1	38.6	121.0	317.4	108.0	209.4	366.1	151.2	214.9
North Central	3,643.6	64.6	575.4	1,204.9	395.4	809.5	1,798.7	593.2	1,205.5
West Central	2,211.9	37.6	268.8	723.5	234.8	488.7	1,182.0	327.3	854.7
Southeast	4,720.8	136.9	397.2	1,875.7	441.1	1,434.6	2,311.0	376.7	1,934.3
Southwest-North	6,322.8	145.3	782.4	2,013.6	760.7	1,252.9	3,381.5	1,007.5	2,374.0
Southwest-South	4,186.7	34.7	476.8	2,022.7	429.5	1,593.2	1,652.5	292.1	1,360.4
Total	21,928.9	457.7	2,621.6	8,157.8	2,369.5	5,788.3	10,691.8	2,748.0	7,943.8

1/ All redcedar sawlogs were graded as No. 1.

Table 25. --Hardwood sawtimber volume by log class and stand quality, by species group and Survey region, 1951-53

Species group and Survey region	All classes	Standard lumber logs					Tie and timber logs		
		Grade 1	Grade 2	Grade 3			Total	In fair and better stands	In poor stands
				Total	In fair and better stands	In poor stands			
	Million board feet								
Species group:									
Red oaks	3,686.0	338.8	545.8	1,684.9	607.4	1,077.5	1,116.5	321.6	794.9
White oaks	2,541.3	281.4	583.1	1,145.7	450.6	695.1	531.1	133.7	397.4
Hickories	1,810.2	159.5	372.6	913.1	269.0	644.1	365.0	86.1	278.9
Yellow-poplar	1,057.1	131.5	172.7	454.4	174.7	279.7	298.5	107.3	191.2
Sweetgum	2,316.2	172.6	395.8	1,026.2	411.3	614.9	721.6	183.8	537.8
Black and tupelo gums	2,308.2	262.9	530.1	1,140.6	546.3	594.3	374.6	94.1	280.5
Other hardwoods	2,562.7	231.2	508.0	1,176.1	464.1	712.0	647.4	159.4	488.0
Total	16,281.7	1,577.9	3,108.1	7,541.0	2,923.4	4,617.6	4,054.7	1,086.0	2,968.7
Survey region:									
North	2,154.8	304.8	541.7	1,111.8	495.5	616.3	196.5	89.7	106.8
North Central	2,346.9	166.5	531.8	1,312.2	470.9	841.3	336.4	120.4	216.0
West Central	2,761.8	316.8	539.6	1,504.7	598.1	906.6	400.7	153.9	246.8
Southeast	3,798.1	116.5	400.1	1,556.9	332.1	1,224.8	1,724.6	322.7	1,401.9
Southwest-North	3,279.4	366.7	643.1	1,355.6	653.4	702.2	914.0	272.0	642.0
Southwest-South	1,940.7	306.6	451.8	699.8	373.4	326.4	482.5	127.3	355.2
Total	16,281.7	1,577.9	3,108.1	7,541.0	2,923.4	4,617.6	4,054.7	1,086.0	2,968.7

Table 26. --Net annual growth of sawtimber and growing stock by species and class of timber, by Survey region, 1951-53

Class of timber	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	Million cubic feet			Million board feet		
STATE OF ALABAMA						
Sawtimber trees	572.5	364.8	207.7	2,769.6	1,863.7	905.9
Poletimber trees	196.1	65.8	130.3	...	...	...
Total	768.6	430.6	338.0	2,769.6	1,863.7	905.9
NORTH						
Sawtimber trees	33.7	12.3	21.4	149.1	58.5	90.6
Poletimber trees	13.8	3.5	10.3	...	...	...
Total	47.5	15.8	31.7	149.1	58.5	90.6
NORTH CENTRAL						
Sawtimber trees	87.3	58.4	28.9	420.3	295.0	125.3
Poletimber trees	43.6	18.8	24.8	...	...	...
Total	130.9	77.2	53.7	420.3	295.0	125.3
WEST CENTRAL						
Sawtimber trees	90.8	53.0	37.8	397.6	238.3	159.3
Poletimber trees	37.9	14.4	23.5	...	...	...
Total	128.7	67.4	61.3	397.6	238.3	159.3
SOUTHEAST						
Sawtimber trees	140.9	85.9	55.0	706.1	458.0	248.1
Poletimber trees	53.5	16.0	37.5	...	...	...
Total	194.4	101.9	92.5	706.1	458.0	248.1
SOUTHWEST-NORTH						
Sawtimber trees	132.1	91.4	40.7	668.1	489.3	178.8
Poletimber trees	30.8	9.2	21.6	...	...	...
Total	162.9	100.6	62.3	668.1	489.3	178.8
SOUTHWEST-SOUTH						
Sawtimber trees	87.7	63.8	23.9	428.4	324.6	103.8
Poletimber trees	16.5	3.9	12.6	...	...	...
Total	104.2	67.7	36.5	428.4	324.6	103.8

Table 27. --Net annual growth per acre of sawtimber and growing stock, by forest-type and stand-size group, by Survey region, 1951-1953

Stand-size group	Growing stock			Sawtimber		
	All types	Softwood types	Hardwood types	All types	Softwood types	Hardwood types
	Cubic feet			Board feet		
STATE OF ALABAMA						
Sawtimber	60	64	52	271	303	206
Poletimber	33	34	30	93	103	75
Other stand sizes	12	11	14	27	29	19
Total	37	38	35	133	143	111
NORTH						
Sawtimber	34	46	27	138	192	104
Poletimber	23	26	21	58	67	52
Other stand sizes	9	9	7	9	9	11
Total	24	28	22	76	91	66
NORTH CENTRAL						
Sawtimber	52	62	26	228	273	109
Poletimber	27	30	21	69	78	48
Other stand sizes	11	9	22	25	27	19
Total	29	31	22	92	106	56
WEST CENTRAL						
Sawtimber	66	70	60	278	310	240
Poletimber	38	40	32	93	102	76
Other stand sizes	19	20	16	40	44	26
Total	41	42	39	127	131	120
SOUTHEAST						
Sawtimber	65	64	66	279	295	248
Poletimber	35	32	39	104	107	97
Other stand sizes	11	11	11	30	31	27
Total	39	36	45	140	140	142
SOUTHWEST-NORTH						
Sawtimber	68	72	56	335	368	235
Poletimber	43	46	37	130	143	101
Other stand sizes	19	20	10	41	44	17
Total	52	55	43	212	233	152
SOUTHWEST-SOUTH						
Sawtimber	60	56	72	286	283	293
Poletimber	34	32	42	113	114	107
Other stand sizes	6	6	3	18	20	8
Total	36	33	50	147	141	176

Table 28. --Commodity drain on sawtimber and growing stock in species groups, by commodity and Survey region, 1951

Commodity	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	- - Million cubic feet - -			- - Million board feet - -		
STATE OF ALABAMA						
Sawlogs	371.7	233.4	138.3	1,859.8	1,219.4	640.4
Veneer logs	19.3	.1	19.2	105.7	.4	105.3
Cooperage bolts	17.0	13.4	3.6	86.0	69.7	16.3
Pulpwood	91.3	90.2	1.1	127.6	125.2	2.4
Fuelwood	61.6	18.0	43.6	223.6	84.1	139.5
Piling	2.6	2.6	...	12.7	12.7	...
Poles	9.4	9.4	...	45.6	45.6	...
Posts	8.5	2.6	5.9	14.8	.4	14.4
Hewn ties	4.0	.4	3.6	17.9	2.3	15.6
Round mine timbers	4.6	2.2	2.4	2.6	2.6	...
Miscellaneous products	5.3	1.0	4.3	13.8	.7	13.1
Total	595.3	373.3	222.0	2,510.1	1,563.1	947.0
NORTH						
Sawlogs	25.8	13.9	11.9	127.8	72.7	55.1
Veneer logs	1.0	...	1.0	5.3	...	5.3
Cooperage bolts	1.8	...	1.8	7.7	...	7.7
Pulpwood	.7	.7	...	.9	.9	...
Fuelwood	12.3	3.4	8.9	44.7	16.4	28.3
Piling	...	...	...	...	...	...
Poles	.2	.2	...	.8	.8	...
Posts	1.8	.4	1.4	3.6	.1	3.5
Hewn ties	.1	...	.1	.2	...	.2
Round mine timbers	...	...	...	...	...	...
Miscellaneous products	1.2	.1	1.1	3.7	(1/)	3.7
Total	44.9	18.7	26.2	194.7	90.9	103.8
NORTH-CENTRAL						
Sawlogs	62.6	45.0	17.6	316.4	235.1	81.3
Veneer logs	.6	...	.6	3.3	...	3.3
Cooperage bolts	5.7	5.3	.4	29.5	27.8	1.7
Pulpwood	10.3	10.3	(1/)	14.4	14.4	(1/)
Fuelwood	15.1	6.4	8.7	57.9	29.8	28.1
Piling	(1/)	(1/)	...	(1/)	(1/)	...
Poles	.3	.3	...	1.6	1.6	...
Posts	1.9	.7	1.2	3.0	.1	2.9
Hewn ties	.1	...	.1	.4	...	.4
Round mine timbers	3.1	1.5	1.6	1.7	1.7	...
Miscellaneous products	.4	.2	.2	.4	.1	.3
Total	100.1	69.7	30.4	428.6	310.6	118.0
WEST-CENTRAL						
Sawlogs	53.0	30.8	22.2	263.4	160.6	102.8
Veneer logs	1.4	...	1.4	7.7	...	7.7
Cooperage bolts	1.6	.9	.7	8.2	4.8	3.4
Pulpwood	13.8	13.2	.6	19.6	18.3	1.3
Fuelwood	4.9	1.1	3.8	17.2	5.1	12.1
Piling	(1/)	(1/)	...	.1	.1	...
Poles	.6	.6	...	3.1	3.1	...
Posts	1.0	.3	.7	1.7	(1/)	1.7
Hewn ties	(1/)	...	(1/)	.2	...	.2
Round mine timbers	.6	.3	.3	.4	.4	...
Miscellaneous products	.5	.1	.4	1.1	(1/)	1.1
Total	77.4	47.3	30.1	322.7	192.4	130.3

Commodity	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	- - Million cubic feet - -			- - Million board feet - -		
SOUTHEAST						
Sawlogs	108.4	63.0	45.4	540.0	329.4	210.6
Veneer logs	4.7	.1	4.6	25.7	.4	25.3
Cooperage bolts	.3	.3	(1/)	1.7	1.7	(1/)
Pulpwood	27.4	27.2	.2	38.2	37.7	.5
Fuelwood	17.2	3.5	13.7	60.0	16.0	44.0
Piling	.3	.3	...	1.3	1.3	...
Poles	.9	.9	...	4.2	4.2	...
Posts	2.4	.7	1.7	4.2	.2	4.0
Hewn ties	2.5	.2	2.3	11.1	1.2	9.9
Round mine timbers	...	...	...	...	...	...
Miscellaneous products	1.1	.2	.9	2.6	.1	2.5
Total	165.2	96.4	68.8	689.0	392.2	296.8
SOUTHWEST-NORTH						
Sawlogs	88.0	56.4	31.6	440.8	294.8	146.0
Veneer logs	6.3	...	6.3	34.6	...	34.6
Cooperage bolts	7.6	6.9	.7	38.9	35.4	3.5
Pulpwood	16.7	16.5	.2	23.4	23.0	.4
Fuelwood	8.0	1.7	6.3	27.8	7.8	20.0
Piling	2.0	2.0	...	9.9	9.9	...
Poles	3.8	3.8	...	18.6	18.6	...
Posts	.9	.3	.6	1.5	(1/)	1.5
Hewn ties	1.0	.2	.8	4.6	.9	3.7
Round mine timbers	...	...	...	...	...	...
Miscellaneous products	1.9	.3	1.6	6.0	.5	5.5
Total	136.2	88.1	48.1	606.1	390.9	215.2
SOUTHWEST-SOUTH						
Sawlogs	33.9	24.3	9.6	171.4	126.8	44.6
Veneer logs	5.3	...	5.3	29.1	...	29.1
Cooperage bolts	...	...	...	...	...	...
Pulpwood	22.4	22.3	.1	31.1	30.9	.2
Fuelwood	4.1	1.9	2.2	16.0	9.0	7.0
Piling	.3	.3	...	1.4	1.4	...
Poles	3.6	3.6	...	17.3	17.3	...
Posts	.5	.2	.3	.8	(1/)	.8
Hewn ties	.3	(1/)	.3	1.4	.2	1.2
Round mine timbers	.9	.4	.5	.5	.5	...
Miscellaneous products	.2	.1	.1	(1/)	(1/)	(1/)
Total	71.5	53.1	18.4	269.0	186.1	82.9

1/ Negligible.

Table 29. --Commodity drain of sawtimber and growing stock by species, 1951

Species	Growing stock	Sawtimber
	Million cu. ft.	Million bd. ft.
Softwood:		
Pines	371.2	1,555.7
Other	2.1	7.4
Total	373.3	1,563.1
Hardwood:		
Oaks	82.1	321.8
Other firm-textured hardwoods	22.8	86.8
Sweetgum	54.6	245.0
Black and tupelo gums	28.3	132.6
Yellow-poplar	26.6	124.5
Other soft-textured hardwoods	7.6	36.3
Total	222.0	947.0
All species	595.3	2,510.1

Table 30. --Commodity drain on sawtimber and growing stock, by species group and class of timber, by Survey region, 1951

Class of timber	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	Million cubic feet			Million board feet		
STATE OF ALABAMA						
Sawtimber trees	491.4	295.7	195.7	2,510.1	1,563.1	947.0
Poletimber trees	103.9	77.6	26.3	...	...	...
Total	595.3	373.3	222.0	2,510.1	1,563.1	947.0
NORTH						
Sawtimber trees	38.8	17.0	21.8	194.7	90.9	103.8
Poletimber trees	6.1	1.7	4.4	...	...	...
Total	44.9	18.7	26.2	194.7	90.9	103.8
NORTH CENTRAL						
Sawtimber trees	82.8	58.2	24.6	428.6	310.6	118.0
Poletimber trees	17.3	11.5	5.8	...	...	...
Total	100.1	69.7	30.4	428.6	310.6	118.0
WEST CENTRAL						
Sawtimber trees	63.4	36.4	27.0	322.7	192.4	130.3
Poletimber trees	14.0	10.9	3.1	...	...	...
Total	77.4	47.3	30.1	322.7	192.4	130.3
SOUTHEAST						
Sawtimber trees	135.9	74.4	61.5	689.0	392.2	296.8
Poletimber trees	29.3	22.0	7.3	...	...	...
Total	165.2	96.4	68.8	689.0	392.2	296.8
SOUTHWEST-NORTH						
Sawtimber trees	117.7	73.4	44.3	606.1	390.9	215.2
Poletimber trees	18.5	14.7	3.8	...	...	...
Total	136.2	88.1	48.1	606.1	390.9	215.2
SOUTHWEST-SOUTH						
Sawtimber trees	52.8	36.3	16.5	269.0	186.1	82.9
Poletimber trees	18.7	16.8	1.9	...	...	...
Total	71.5	53.1	18.4	269.0	186.1	82.9

Table 31. --Change in commercial forest land between Surveys by forest-type group and Survey region, 1935-36 and 1951-53

Survey region	Change between Surveys			
	All types	Softwood [1]	Bottomland hdwd.	Upland hardwood
	Percent			
North	- 7	- 20	- 16	+ 10
North Central	+ 14	+ 5	(2)	+ 48
West Central	+ 15	+ 7	+ 14	+ 52
Southeast	+ 18	+ 17	+ 19	+ 23
Southwest-North	+ 14	+ 16	+ 15	+ 3
Southwest-South	- 3	- 2	+ 18	- 38
Total	+ 10	+ 6	+ 13	+ 23

1/ Includes mixed pine-hardwood types.
2/ Negligible.

Table 32. --Change in growing stock between Surveys by species group and Survey region, 1935-36 and 1951-53

Survey region	Change between Surveys		
	All species	Softwood	Hardwood
	Percent		
North	- 19	- 31	- 14
North Central	- 20	- 31	- 4
West Central	(1/)	- 14	+ 12
Southeast	- 1	- 9	+ 7
Southwest-North	+ 20	+ 24	+ 15
Southwest-South	+ 30	+ 27	+ 36
Total	+ 1	- 5	+ 6

1/ Negligible.

Table 33. --Change in sawtimber volume between Surveys by species group and Survey region, 1935-36 and 1951-53

Survey region	Change between Surveys		
	All species	Soft-wood	Hard-wood
	- - - - - - - Percent - - - - - - -		
North	- 21	- 34	- 14
North Central	- 38	- 46	- 19
West Central	- 18	- 31	- 2
Southeast	- 17	- 23	- 8
Southwest-North	+ 8	+ 14	- 3
Southwest-South	+ 22	+ 18	+ 32
Total	- 12	- 17	- 5

Table 34. --Total number of live trees 1/ by species group and Survey region (1951-53) and change between Surveys (1935-36 and 1951-53)

Diameter class (inches)	Softwood		Hardwood	
	Thousand trees	Percent change	Thousand trees	Percent change
	STATE OF ALABAMA			
2-4	2,392,324	+78	6,568,793	+99
6-8	583,273	+33	770,027	+27
10-12	181,663	+10	265,463	+29
14-18	49,159	-18	101,009	+ 8
20 and up	4,487	-55	17,871	-25
Total	3,210,906	+59	7,723,163	+82
	NORTH			
2-4	146,365	+11	756,607	+42
6-8	35,541	-21	94,058	- 3
10-12	7,388	-37	33,540	(2/)
14-18	2,089	-32	13,046	- 6
20 and up	176	-50	2,652	-26
Total	191,559	(2/)	899,903	+32
	NORTH CENTRAL			
2-4	618,947	+96	1,331,776	+108
6-8	131,930	+20	167,554	+ 23
10-12	33,924	-20	47,883	+ 12
14-18	7,596	-51	16,022	- 6
20 and up	695	-69	2,443	- 31
Total	793,092	+63	1,565,678	+ 86
	WEST CENTRAL			
2-4	388,786	+95	1,027,816	+97
6-8	92,411	+42	123,711	+27
10-12	20,208	-13	45,381	+41
14-18	4,926	-32	16,687	+ 8
20 and up	448	-58	2,721	-24
Total	506,779	+71	1,216,316	+81
	SOUTHEAST			
2-4	616,684	+125	1,542,750	+102
6-8	131,540	+ 43	160,090	+ 37
10-12	43,037	+ 11	62,662	+ 27
14-18	11,149	- 27	24,348	+ 8
20 and up	1,116	- 60	3,908	- 35
Total	803,526	+ 90	1,793,758	+ 87
	SOUTHWEST-NORTH			
2-4	390,912	+74	1,173,208	+156
6-8	100,165	+50	135,747	+ 51
10-12	39,459	+51	46,961	+ 54
14-18	13,721	+28	19,995	+ 21
20 and up	1,664	-32	3,845	- 25
Total	545,921	+65	1,379,756	+130
	SOUTHWEST-SOUTH			
2-4	230,630	+14	736,636	+89
6-8	91,686	+51	88,867	+26
10-12	37,647	+59	29,036	+57
14-18	9,678	+18	10,911	+29
20 and up	388	-64	2,302	+15
Total	370,029	+25	867,752	+77

1/ Includes both cull and growing stock trees.
2/ Negligible.

Definitions of Terms

Forest Land

Forest land. Includes: (a) land which is at least 10 percent stocked by trees of any size and capable of producing timber or other wood products, or of exerting an influence on the climate or on the water regime; (b) land from which the trees have been removed to less than 10 percent stocking and which has not been developed for other use; (c) afforested areas.

Commercial forest land. Forest land which is (a) producing, or is physically capable of producing, usable crops of wood (usually sawtimber), (b) economically available now or prospectively, and (c) not withdrawn from timber utilization.

Noncommercial forest land. Forest land (a) withdrawn from timber utilization through statute, ordinance, or administrative order but which otherwise qualifies as commercial forest land or (b) incapable of yielding usable wood products (usually sawtimber) because of adverse site conditions, or physical inaccessibility.

Tree Species

Commercial species. Includes species that normally have value for commercial timber products; excludes so-called weed or noncommercial species such as blackjack oak, scrub post oak, blue beech, sourwood, etc.

Softwoods. Coniferous species, of which the most numerous are loblolly pine (Pinus taeda); shortleaf pine (P. echinata); longleaf pine (P. palustris); and slash pine (P. caribaea).

Hardwoods. Broadleaved species, of which the most numerous genera or species are the oaks (Quercus spp.); hickories, except pecans (Carya spp.); and sweetgum (Liquidambar styraciflua).

Forest Type

Forest type is determined upon the basis of the predominant species as indicated by cubic volume for sawtimber and poletimber stands, and number of trees for seedling-sapling stands.

Longleaf-slash pine. Forests in which 50 percent or more of the stand is longleaf or slash pine, singly or in combination. (Common associates include other southern pines, oak, and gum.)

Loblolly-shortleaf pine. Forests in which 50 percent or more of the stand is loblolly pine, shortleaf pine, or other southern yellow pines excepting longleaf or slash pine, singly or in combination. (Common associates include oak, hickory, and gum.)

White-red-jack pine. Forests in which 50 percent or more of the stand is eastern white pine, red pine, or jack pine, singly or in combination. (Common associates include hemlock, aspen, birch, and maple.)

Spruce-fir. Forests in which 50 percent or more of the stand is spruce or true firs, singly or in combination. (Common associates include white cedar, tamarack, maple, birch, and hemlock.)

Oak-pine. Forests in which 50 percent or more of the stand is hardwoods, usually upland oaks, but in which southern pines make up 25 - 49 percent of the stand. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory. Forests in which 50 percent or more of the stand is upland oaks or hickory, singly or in combination, except where pines comprise 25 - 49 percent in which case the stand would be classified "oak-pine." (Common associates include yellow-poplar, elm, maple, and black walnut.)

Maple-beech-birch. Forests in which 50 percent or more of the stand is maple, beech, or yellow birch, singly or in combination. (Common associates include hemlock, elm, basswood and white pine.)

Oak-gum-cypress. Bottomland forests in which 50 percent or more of the stand is tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, except where pines comprise 25 - 49 percent in which case the stand would be classified "oak-pine." (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood. Forests in which 50 percent or more of the stand is elm, ash, or cottonwood, singly or in combination. (Common associates include willow, sycamore, beech, and maple.)

In the detailed tables in this report, the types listed above have been grouped into five major forest types. Following is a list of these major groupings together with the types contained in each:

Pine. Consists of longleaf-slash pine type and loblolly-shortleaf pine type.

Pine-hardwood. Same as oak-pine type.

Other softwood. Forests in which redcedar, white cedar, or hemlock comprise at least 25 percent of the stand. In the national standard forest types, the redcedar is included with oak-hickory, the white cedar with spruce-fir, and hemlock with white-red-jack pine.

Upland hardwood. Consists of oak-hickory type and maple-beech-birch type.

Bottomland hardwood. Consists of oak-gum-cypress type and elm-ash-cottonwood type.

Class of Timber

Sawtimber tree. A live tree of commercial species at least 9.0 inches d.b.h. in softwoods and 11.0 inches d.b.h. in hardwoods, that contains at least a 12-foot merchantable butt log--or, if the butt log is a cull, at least 50 percent of the gross sawlog volume is in merchantable logs. To be merchantable, a log must meet the following requirements:

(a) In softwoods, logs having a minimum 6-inch small-end diameter inside bark and at least one-third sound, with sweep or crook not exceeding two-thirds the small-end diameter. Cedar logs must have sound heartwood.

(b) In hardwoods, logs having a minimum 8-inch small-end diameter inside bark and which meet the specifications of a standard lumber log or a tie and timber log.

Poletimber tree. A live tree of commercial species between 5.0 inches d.b.h. and sawtimber size, but straight and clear enough to become a sawtimber tree in the future.

Seedling and sapling tree. Live, well-established seedlings and trees of commercial species less than 5.0 inches in d.b.h., sound and of good form.

Cull tree. A live tree 5.0 inches or larger in d.b.h., which is unmerchantable for sawlogs now or prospectively because of defect, rot, or species.

Hardwood limbs. Limbs of hardwood sawtimber trees and sawtimber-size cull hardwood trees to a minimum diameter of 4.0 inches inside bark.

Stand-size Class

Large sawtimber. Stands with sawtimber trees having a net volume of at least 1,500 board feet per acre and at least half of this volume in sawtimber trees 15.0 inches d.b.h. and larger.

Small sawtimber. Stands which have a net volume of at least 1,500 board feet per acre in sawtimber trees, but which do not meet the specifications for large sawtimber.

Poletimber. Stands failing to meet the sawtimber specification but at least 10 percent stocked with poletimber and larger trees (5.0 inches d.b.h. and larger) and with at least half the minimum stocking in poletimber trees.

Seedling and sapling. Stands not qualifying as either sawtimber or poletimber stands, but having at least 10 percent stocking of trees of commercial species and with at least half the minimum stocking in seedling and sapling trees.

Nonstocked and other areas. Commercial forest land not qualifying as sawtimber, poletimber, or seedling and sapling stands.

Tree Stocking

Stocking is the extent to which growing space is effectively utilized by present or potential growing-stock trees of commercial species. Stands are considered to be well stocked when the percentage of full stocking is 70 or above, medium stocked when the percentage is 40 to 69, poorly stocked when the percentage is 10 to 39, and nonstocked when the percentage is under 10.

Volume

Sawtimber volume. Net volume in board feet, International 1/4-inch rule, in merchantable sawlogs in sawtimber trees.

Growing stock. Net volume in cubic feet of sawtimber and poletimber trees from stump to a minimum 4.0-inch top diameter (of central stem) inside bark.

Total volume. Net volume in cubic feet of sawtimber trees, poletimber trees, cull trees, and salvable dead trees from stump to a minimum 4.0-inch top inside bark. Includes bole only of softwoods but both bole and limbs of hardwoods to a minimum 4.0-inch diameter inside bark.

Basal Area

Basal area. Cross-sectional area, including bark, of trees at breast height, measured in square feet.

Diameter

D.b.h. (diameter breast high). Tree diameter in inches, outside bark, measured at 4-1/2 feet above ground.

Diameter class. The 2-inch diameter classes extend from 1.0 inch below to 0.9 inch above the stated midpoint. Thus, the 12-inch class includes trees 11.0 inches to and including 12.9 inches d.b.h.

Growth

Net annual growth of sawtimber. The change during the inventory year in net board-foot volume of sawtimber on commercial forest land resulting from natural causes.

Net annual growth of growing stock. The change during the inventory year in net cubic-foot volume of the growing stock on commercial forest land resulting from natural causes.

Drain

Commodity drain on sawtimber. The board-foot volume of sawtimber trees removed from commercial forest land during a specified year as timber products and logging waste.

Commodity drain on growing stock. The cubic-foot volume of sawtimber and poletimber trees removed from commercial forest land during a specified year as timber products and logging waste.

Softwood Log Grades [4]

Softwood log grades are based on the value yield per unit outturn of yard lumber. [5] The value of lumber yield may be expressed relative to the value of No. 2 Common lumber taken as 100 percent. Expressed thus, studies have shown that lumber from grade 1 logs has a value 244 percent as great as No. 2 Common lumber, while the corresponding percentages are 189 percent for grade 2 logs, 142 percent for grade 3 logs, and 107 percent for grade 4 logs.

Hardwood Log Class

Specifications for standard lumber logs (hardwood log grades 1, 2, and 3) are based on suitability for standard factory lumber. [6] Studies have shown that for nearly all species tested, the yield of No. 1 Common and better lumber in grade 1 logs varies from 65 to 80 percent; in grade 2 logs from 40 to 64 percent; and in grade 3 logs from 13 to 36 percent.

Tie and timber logs are suitable for ties, timbers, and certain other construction lumber items. Specifications for tie and timber logs are based chiefly on knot size and log soundness; clear cuttings are not required.

Stand Quality

Fair and better. A stand in which at least four grade-2 or better logs are present per acre.

Poor. A stand in which fewer than four grade-2 or better logs are present per acre.

4/ For detailed specifications of log grades, see "Interim log grades for southern pine." Southern Forest Experiment Station, 18 pp. 1953.
5/ Except for redcedar; all redcedar sawlogs were graded as No. 1.
6/ For detailed specifications of log grades, see "Hardwood log grades for standard lumber: proposals and results." U.S. Forest Products Laboratory D1737. 1949.

Standard Tables

The 10 tables that follow will be found in all Forest Survey State reports in order that forest statistics for a group of States can be easily compared or compiled.

Table I.--Land area, by major classes of land, Alabama, 1951-1953

Class of land	Area
	Thousand acres
Forest:	
Commercial	20,756.2
Noncommercial:	
Reserved from commercial timber use	4.5
Unproductive for timber use	10.5
Total	20,771.2
Nonforest: 1/	11,918.7
Total, all classes	32,689.9

1/ Includes some acreage of water according to Survey standards of area classification but defined by the Bureau of Census as land.

Table II. --Commercial forest land area, by ownership and stand-size classes, Alabama, 1951-1953

Ownership class	Total	Saw-timber stands	Pole-timber stands	Seedling and sapling stands 1/
		Thousand acres		
Federally owned or managed:				
National forest	616.3	241.3	275.0	100.0
Indian	...	...	...	...
Other	208.3	71.8	109.4	27.1
Total	824.6	313.1	384.4	127.1
State, county, and municipal 2/	151.3	60.6	68.5	22.2
Private	19,780.3	5,717.3	10,459.7	3,603.3
All ownerships	20,756.2	6,091.0	10,912.6	3,752.6

1/ Nonstocked and other areas included with seedling and sapling stands.
2/ Separation of State, county, and municipal not available.

Table III. --Area of commercial forest land, by major forest types, Alabama, 1951-53

Forest type	Thousand acres
White-red-jack pine	2.6
Spruce-fir	2.2
Longleaf-slash pine	2,995.8
Loblolly-shortleaf pine	8,006.5
Oak-pine	3,256.0
Oak-hickory	4,087.9
Oak-gum-cypress	2,330.8
Elm-ash-cottonwood	43.6
Maple-beech-birch	30.8
Total	20,756.2

Table IV. --Net volume of live sawtimber and growing stock on commercial forest land, by stand-size class, Alabama, 1951-53

Stand-size class	Sawtimber	Growing stock
	Million board feet	Million cubic feet
Sawtimber stands	28,133.7	7,067.0
Poletimber stands	9,306.9	4,345.0
Seedling and sapling stands	754.4	293.7
Nonstocked and other areas not elsewhere classified	15.6	6.7
Total	38,210.6	11,712.4

Table V. --Net volume of live sawtimber and growing stock on commercial forest land, by ownership class, Alabama, 1951-1953

Ownership class	Sawtimber	Growing stock
	Million bd. ft.	Million cu. ft.
Federally owned or managed:		
National Forest	1,565.3	415.3
Indian	...	...
Other	368.9	112.3
Total	1,934.2	527.6
State, county, and municipal 1/	327.8	102.7
Private 2/	35,948.6	11,082.1
All ownerships	38,210.6	11,712.4

1/ Separation between State, county, and municipal not available.
2/ Separation between farm, industrial, and other private ownership classes not available.

Table VI. --Net volume of live sawtimber and growing stock on commercial forest land, by species, Alabama, 1951-53

Species	Sawtimber	Growing stock
	Million board feet	Million cubic feet
Softwoods:		
Longleaf and slash pines	5,151.0	1,337.3
Shortleaf and loblolly pines	15,296.5	3,912.2
Other southern yellow pines	964.4	248.8
Hemlock	19.4	3.5
Cypress	415.8	80.0
Other eastern softwoods	81.8	34.3
Total	21,928.9	5,616.1
Hardwoods:		
White oaks (Q. alba and prinus)	1,418.9	484.2
Red oaks (Q. borealis and falcata var. pagodaefolia)	561.0	155.1
Other white oaks	1,122.4	488.1
Other red oaks	3,125.0	1,153.1
Yellow birch	11.1	4.8
Sugar maple	47.9	19.8
Soft maples	204.4	108.4
Beech	344.3	93.1
Sweetgum	2,316.2	881.2
Tupelo and blackgum	2,308.2	835.6
Ash	326.7	126.5
Hickory	1,934.2	777.1
Cottonwood	64.1	17.8
Basswood	73.1	21.9
Yellow-poplar	1,057.1	310.7
Black walnut	20.1	8.6
Other eastern hardwoods	1,347.0	610.3
Total	16,281.7	6,096.3
All species	38,210.6	11,712.4

Table VII.--Net volume of live sawtimber on commercial forest land, by diameter-class groups and species, Alabama, 1951-53

Species	Diameter class groups						Total
	10 inches	12 inches	14 inches	16 inches	18 inches	20 inches and up	
	Million board feet						
Southern yellow pines	5,313.1	5,164.4	4,029.5	2,803.6	1,890.8	2,210.5	21,411.9
Other eastern softwoods	50.7	65.5	94.6	103.8	57.0	145.4	517.0
White oaks (Q. alba and prinus)	...	297.1	294.3	254.7	193.3	379.5	1,418.9
Other white oaks	...	301.9	218.6	153.2	120.4	328.3	1,122.4
Red oaks (Q. borealis and falcata var. pagodaefolia)	...	75.4	106.4	101.3	70.6	207.3	561.0
Other red oaks	...	643.5	647.7	549.5	415.5	868.8	3,125.0
Sugar maple	...	14.7	11.5	10.1	2.3	9.3	47.9
Beech	...	32.6	43.2	30.7	58.6	179.2	344.3
Sweetgum	...	596.8	581.0	425.1	341.7	371.6	2,316.2
Tupelo and blackgum	...	522.8	507.1	446.1	311.9	520.3	2,308.2
Yellow-poplar	...	183.7	203.8	241.7	167.3	260.6	1,057.1
Other eastern hardwoods	....	974.4	975.9	727.7	564.7	738.0	3,980.7

Table VIII. --Net volume of all timber on commercial forest land, by class of material and species group, Alabama, 1951-53

Class of material	Total	Softwoods	Hardwoods
	Million cubic feet		
Growing stock:			
Sawtimber trees:			
Sawlog portion	6,263.3	3,666.2	2,597.1
Upper stem portion	1,424.3	326.4	1,097.9
Total	7,687.6	3,992.6	3,695.0
Poletimber trees	4,024.8	1,623.5	2,401.3
Total growing stock	11,712.4	5,616.1	6,096.3
Other material:			
Sound cull trees	945.4	52.8	892.6
Rotten cull trees	384.2	5.3	378.9
Hardwood limbs	485.6	...	485.6
Salvable dead trees	69.0	32.6	36.4
Total other material	1,884.2	90.7	1,793.5
Total, all timber	13,596.6	5,706.8	7,889.8

Table IX. --Net annual growth, annual mortality, and commodity drain on live sawtimber and growing stock on commercial forest land, by species groups, Alabama, 1951

Item	Sawtimber			Growing stock		
	Total	Softwoods	Hardwoods	Total	Softwoods	Hardwoods
	Million board feet			Million cubic feet		
Net annual growth	2,769.6	1,863.7	905.9	768.6	430.6	338.0
Annual mortality	229.3	131.6	97.7	82.3	38.6	43.7
Commodity drain						
Timber products	2,422.4	1,531.1	891.3	509.3	341.8	167.5
Logging waste	87.7	32.0	55.7	86.0	31.5	54.5
Total commodity drain	2,510.1	1,563.1	947.0	595.3	373.3	222.0

Table X. --Total output of timber products and commodity drain on live sawtimber and growing stock, Alabama, 1951

Product	Volume of products cut[1/]			Commodity drain on sawtimber			Commodity drain on growing stock		
	Standard unit	Number	M cu. ft.	Total	Soft-woods	Hard-woods	Total	Soft-woods	Hard-woods
				Million board feet			Million cubic feet		
Sawlogs	MBM[2/]	1,944,733	310,875	1,859.8	1,219.4	640.4	371.7	233.4	138.3
Veneer logs and bolts	MBM[2/]	95,775	13,408	105.7	.4	105.3	19.3	.1	19.2
Cooperage logs and bolts	MBM[2/]	86,254	13,882	86.0	69.7	16.3	17.0	13.4	3.6
Pulpwood bolts	Std. cords[3/]	1,406,207	106,061	127.6	125.2	2.4	91.3	90.2	1.1
Fuelwood	Std. cords[3/]	1,203,296	90,365	223.6	84.1	139.5	61.6	18.0	43.6
Piling	M linear feet	3,087	2,220	12.7	12.7	...	2.6	2.6	...
Poles	M pieces	401	7,960	45.6	45.6	...	9.4	9.4	...
Posts	M pieces	16,766	10,831	14.8	.4	14.4	8.5	2.6	5.9
Hewn ties	M pieces	337	2,366	17.9	2.3	15.6	4.0	.4	3.6
Mine timbers	M cu. ft.	4,260	4,269	2.6	2.6	...	4.6	2.2	2.4
Miscellaneous[4/]	M cu. ft.	5,414	5,414	13.8	.7	13.1	5.3	1.0	4.3
Total			567,651	2,510.1	1,563.1	947.0	595.3	373.3	222.0

1/ Includes material from both growing stock and other miscellaneous sources.
2/ International 1/4-inch rule.
3/ Rough wood basis.
4/ Includes shuttle blocks, excelsior, handle stock, etc.

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